ALTOS

File-it!™

Reference Manual

File-it!™

File Manager

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Chapter 1

Getting Started with File-it!

Before You Begin

How to Use This Manual

The best way to become familiar with *File-it!* is to use it. Read the text and work through the examples on your terminal. If you press the wrong key or get lost, don't worry. You can always ask *File-it!* for help any time you want more information about what to do next, how to leave a section of the program, or how to start over again.

Each chapter in this manual concentrates on one section of *File-it!*. The appendixes give supplementary technical information. The index can help you find particular parts of *File-it!* quickly and easily.

Specifying a Terminal

If you are using a UNIX-based operating system, you need to know the *termcap* name of your terminal before you start to work with *File-it!*. See Appendix F for details.

The Control Keys

The letter and numeric keys of a computer keyboard are arranged like the keys of a typewriter. However, some keys have special uses, such as moving the *cursor* (the small lighted rectangle or underscore on the terminal screen that indicates where the next character is going to appear), initiating commands, and canceling commands. Before you start to use *File-it!*, find the keys listed below on your keyboard.

- The RETURN key is sometimes labeled CR, or NEWLINE, or is sometimes labeled with a bent arrow.

Compatibility

File-it! is compatible with Relational Database System's **INFORMIX** Database Management System. As your needs for information handling grow, you will not need to learn a new system. You will find that the files you built using *File-it!* are immediately usable from **INFORMIX**.

INFORMIX offers all of the features of *File-it!*, plus powerful report writers, screen builders, and language tools.

See Appendix D for information on using *File-it!* files with **INFORMIX** and **INFORMIX** files with *File-it!*.

What Is a Database?

A database is a collection of information (data). An example of a database is your personal phone book which contains the names, addresses, and telephone numbers of your friends or business associates. Other kinds of databases include:

● Mailing lists
● Parts lists
● Client lists
● Inventory lists
● Catalogs of records, stamps, and books

Whatever information you work with, *File-it!* enables you to store it so that you have access to it quickly, easily, and in a form that is useful to you.

Querying a Database

Once there is data in a *File-it!* database, you can ask *File-it!* questions about the data. This process is called *querying* the database. The following are typical queries for several different kinds of databases:

A Parts List Database

List all parts that cost more than $100
List all parts that are back-ordered
List all parts that are back-ordered and
    cost more than $100
List all parts with the word "gasket" in
    their descriptions
List all parts that are back-ordered, cost
    more than $100, and have the word "gasket"
    in their descriptions

A Book Database

List all books published by XYZ Press
List all books written by Mary Jones
List all oversized books that cost under $25
List all books with the word "flower" in
    their descriptions

An Employee Database

List all employees who have been with the
    company for more than ten years
List all employees who have no sick leave left
List all employees who have over three weeks
    vacation due and earn over $15,000 a year

File-it! can give you only the information that you have stored in your database—it cannot manufacture data. It cannot retrieve someone's phone number if you never entered the number into your database.

File-it!'s power comes from its ability to retrieve your data from your database and to allow you to look at it in many different ways, depending on your needs and the queries you make.

Using the Help Menu

Every *File-it!* screen has a Help text associated with it. Whenever you want information about what to do next, simply hold down the CONTROL key and press W, and *File-it!* displays the Help text.

The Help text has a menu (shown below). The menu lets you read as much or as little of the text as you want.

```
HELP:    Screen   Resume
Displays the next page of Help text.
```

The Screen option displays the next page of the Help text; the Resume option lets you continue your work.

Use the Help menu like any other *File-it!* menu. Move the highlight by pressing the SPACE bar. When it is on the option you want, press RETURN. You can also just enter the first letter of the option you want.

Using the File-it! Form

When you work with the information in your *File-it!* database, you will use a form on your terminal screen. An example of a form is shown below.

```
DATA:    Query   Next   Previous  Add   Update  Remove  Screen  Output  Exit
Searches the active database file.

----- Page 1 of 1 ----- names ----------------- Press CONTROL-W for Help ----

first_name       [           ]
last_name        [                ]
address1         [                    ]
address2         [                    ]
city             [                 ]
state            [   ]
zip              [     ]
phone            [           ]
```

The form is like a paper form with places for you to fill in words and numbers. The default form

```
DATABASE ▸░
Choose database with ARROW keys or enter new database name.  Press RETURN.
------------------------------------------------ Press CONTROL-W for Help ----
The following databases are available:

 names
```

2: Select the **names** database by using the ARROW
    keys to move the highlight to the word names.
    (If you are using *File-it!* for the first time, names
    will be the only selection—there will be no
    need to move the highlight.) Press RETURN to
    complete your selection.

→   *File-it!* will display the Top-level menu with the
    name of the database you selected on the
    fourth line of the screen.

```
TOP-LEVEL:   Data  Schema-design  Form-design  Report-design  Utility  Bye
Queries the database: adds, removes, and updates records.
---------------------- names ------------------ Press CONTROL-W for Help ----
```

Querying the Names Database

The following example shows how to look up
Terry Green in the **names** database. After you
have added some more names and addresses to
the **names** database (see Example 1-3), you can use
the same procedure to look up those names.

3: Move the cursor to the **last_name** line with the
RETURN key. If you move the cursor to a line
below the **last_name** line, press RETURN several
more times; it will cycle back to the **last_name**
line.

→ *File-it!* moves the cursor to the next line in the
form each time you press RETURN. After this
step, the cursor will be positioned as shown
below.

```
QUERY:  ESCAPE queries.  DEL discards query.  ARROW keys move cursor.
Searches the active database file.
                    Field: last_name              Type: character
----- Page 1 of 1 ----- names ------------------ Press CONTROL-W for Help ----

first_name          [            ]
last_name           [□          ]
address1            [                        ]
address2            [                        ]
city                [                    ]
state               [ ]
zip                 [    ]
phone               [        ]
```

4: Enter Terry's last name (Green), making sure
that you use an uppercase G and lowercase
reen.

→ *File-it!* displays the letters between the brackets
([]) on the **last_name** line as you enter Green.
If you press the left ARROW or BACKSPACE key,
the cursor will move to the left so that you can
correct a mistake. When you are finished
entering the name, the screen should appear as
shown below.

```
QUERY:  ESCAPE queries.  DEL discards query.  ARROW keys move cursor.
Searches the active database file.
                    Field: last_name              Type: character
----- Page 1 of 1 ----- names ------------------ Press CONTROL-W for Help ----

first_name          [            ]
last_name           [Green□        ]
address1            [                        ]
address2            [                        ]
city                [                    ]
state               [ ]
zip                 [    ]
phone               [        ]
```

Adding Data to the Names Database

Example 1-3 shows you how to add names, addresses, and phone numbers to the **names** database. Once you have added information on some more people to the database, you can use it as your personal phone book.

▓ Example 1-3

This example adds information about a person to the **names** database. It starts with the Data menu at the top of the screen, just where Example 1-2 left off.

The following name, address, and phone number are used in this example. You can use this fictitious person or use someone you know. Be sure to use consistent capitalization for the name and address.

Sample data to be added:

Martha Howard
1234 Broadway
New York, NY 10023
212/936-1212

1: Select the Add option from the Data menu. You can make this selection by using the SPACE bar to move the highlight to the Add option or by pressing the a key.

→ *File-it!* moves the cursor to the first line in the **names** form. This is the **first_name** line. If there was information on the form, *File-it!* clears it from the screen so you can enter new information.

```
ADD:   ESCAPE adds new data.   DEL discards it.   ARROW keys move cursor.
Adds new data to the active database file.
                    Field: phone                    Type: character
----- Page 1 of 1 ----- names ------------------ Press CONTROL-W for Help ----

first_name          [Martha    ]
last_name           [Howard         |
address1            [1234 Broadway              |
address2            [                           |
city                [New York             |
state               [NY|
zip                 [10023|
phone               [212/936-1212[I]
```

4: Press ESCAPE to enter the data into the database.

→ *File-it!* displays the Data menu with the message Record added at the bottom of the screen.

Martha Howard is now in the **names** database. You can look up her address and phone number just as you did Terry Green's in Example 1-2. It is that easy. Add more names and experiment with the **names** database until you are comfortable using *File-it!*.

Leaving File-it!

When you have finished working with the **names** database and want to leave *File-it!*, select the Exit option from the Data menu. *File-it!* will display the Top-level menu. Select the Bye option. You will leave *File-it!* and return to the operating system. To call *File-it!* again, follow the method described in Example 1-1.

The next four chapters in the manual describe how to set up a new database, add data to a database, perform queries, and modify the form. Chapter 6 explains designing a report, and Chapter 7 discusses advanced features.

Chapter 2

Setting Up a Database

File-it! knows nothing about the information you will be storing in your database until you tell it about your data. In order to set up your own database, you must tell *File-it!*:

- The kind of data you are going to keep in the database
- How you are going to organize the data

This chapter describes how to select a new database name and define the database in terms of the information you want to store in it. It covers four types of data you can store in a *File-it!* database, telling why you would use each, and explains how to use the Schema-design menu to set up a database.

Five concepts are key to setting up a database:

- Database names
- Fields
- Records
- Types of data
- Indexes

Selecting a Database Name

The first thing *File-it!* needs to know is the name of the database. You can choose any name you like, but it is a good idea to make it meaningful. Names contain between one and ten characters, and they must begin with a letter. After the first letter, you may use letters, digits, and underscores for the rest of the name. *File-it!* will not allow you to enter more than ten characters. Names cannot contain SPACES. If you choose a name that begins with a number or a punctuation mark, *File-it!* will ask you to choose another name.

Types of Data

You can store many different types of data in a database: dates, zip codes, names, part numbers, part descriptions, costs—the list is endless. You will need to choose the description which best suits each piece of your data. Alphabetic data is always stored in character fields. Numeric data can be stored in one of eight kinds of fields: integer, long, serial, float, money, date, edate, or ydate. The more commonly used data types, character, integer, money, and date, are described in the following sections. For details on the other data types, see Appendix A.

Numbers are characters. It is possible to store all of your data as characters, even the numbers. But if you do not tell *File-it!* that a field, such as someone's age, is numeric, it may not be able to give you the list you want (for example, all the people between the ages of 7 and 13). For the same reason, dates should be stored as dates and money should be stored as money.

Characters are not numbers. If a field contains any letters or punctuation (except for period, plus sign, and minus sign in numeric fields, slash, period, and SPACE in date fields, and period, plus sign, minus sign, and dollar sign in money fields) it must be a character field. If you will need to look at the field as a number, try to separate the number portion of the field and put it in its own field. For example, you can group state and zip code together, or you can make them two separate fields.

The maximum size record that *File-it!* can store is 2048 characters (bytes)—the equivalent of half a page of single-spaced, typed text. A record can be composed of many fields, but the total size of all the fields combined must not exceed the maximum record size. Appendix A lists the size of each type of field.

Date value	Meaning
06/21/63	June 21, 1963
09/08/83	September 8, 1983
12/25/09	December 25, 1909

Using Indexes

Making It Easy to Find Information

File-it! uses indexes to help it find information more quickly. Just as you can find information in a book without looking in the index, *File-it!* can find information without the use of an index—an index just speeds things up.

Indexes are associated with fields. A telephone directory is indexed by last names ("records" in a phone book are stored according to each person's last name). You can index your phone book database by last name (if it has a last name field), zip code, city, or by *any* field in the database. Most important, *File-it!* allows you to have as many indexes as you need.

If you are just getting started with *File-it!* and have a small database, you do not need to concern yourself with indexes; *File-it!* will work fine without them. As your database grows, you can always add an index.

Allowing Duplicates in an Index Field

File-it! normally allows you to have as many records as you like with the same value in an index field (for example, you can have as many Smiths in your database as is appropriate). In some cases you may want to make sure that you do not have more than one record with the same entry in a certain index field. As an example, you

```
DATABASE ---chkbook☐
Choose database with ARROW keys or enter new database name.  Press RETURN.
------------------------------------------------- Press CONTROL-W for Help ----

The following databases are available:

 names
```

2: Press RETURN.

→ *File-it!* creates the new database and displays
   the Top-level menu with the name of the new
   database on the fourth line.

```
TOP-LEVEL:    Data   Schema-design  Form-design  Report-design  Utility  Bye
Queries the database: adds, removes, and updates records.
---------------------- chkbook ---------------- Press CONTROL-W for Help ----
```

After you use the options in the Schema-design
menu to build the **chkbook** database, you can
select **chkbook** from the list of database names that
File-it! displays when you first load it, just as you
selected the **names** database in Example 1-1.

The next step in setting up the **chkbook** database
is to tell *File-it!* about the data you will be storing
in it. You communicate this information to *File-it!*
with the *schema* (set of specifications) for the
database.

Specifying the Schema
When you establish the specifications for a
database, you define the database in terms of a
schema that tells *File-it!* how you want to store
your data. You must tell *File-it!* the following
information about each field:

- The name of the field
- The type of data you will store in the field

Using the Schema-design Menu

The Schema-design menu offers five options: Add, Change, Remove, Screen, and Exit. When you select Exit, you have two choices: Build-new-schema and Keep-old-schema. The first implements the schema as you have defined it and then displays the Form-design menu. The second returns you to the Top-level menu without implementing anything you have done since selecting the Schema-design menu. Add is described in the following section; the Change and Remove options are covered later in this chapter.

When *File-it!* displays the Schema-design menu at the top of the screen, it displays the schema for the database on the rest of the screen. The schema is a table that defines a record. Each row in the schema table represents a field, with the name of the field at the left. Each of the five columns in the schema table presents some information about the field, such as the type of data that will be stored in the field. After you have finished building a schema table for the **chkbook** database as shown in Example 2-3, the screen will appear as follows.

```
SCHEMA-DESIGN:    [Add]  Change  Remove  Screen  Exit
Adds fields to the database schema above the line with the highlight.
                                          Record size:  95
----- Page 1 of 1 ------ chkbook --------------- Press CONTROL-W for Help ----

Data Field Name              Type            Length    Index  Duplicates

checknum                     Integer            2      Index  No
ddate                        Date               4      Index  Yes
payee                        Character         40
amount                       Money              8
notes                        Character         40
tax_ded                      Character          1
```

Using the Add Option

You will be using the Add option of the Schema-design menu to establish the schema table for the **chkbook** database. Once you select the Add option, *File-it!* allows you to define each field in the database, one at a time. As you define each field, *File-it!* prompts you for the information it needs. Most of the questions *File-it!* asks are in the

▓ Example 2-3

This procedure adds the check number field to the **chkbook** database schema table.

1: After selecting the Schema-design menu (Example 2-2), select the Add option.

→ *File-it!* asks you for the name of the field you are adding. The highlight on the schema table (on the lower portion of the screen) shows you where *File-it!* will place the name of the field after you enter it.

```
ADD NAME ··□
Enter field name.   RETURN adds it.   DEL returns to Schema-design menu.
                                                    Record size:  0
----- Page 1 of 1 ----- chkbook ---------------- Press CONTROL-W for Help ----

Data Field Name                    Type          Length   Index  Duplicates
[                                ]
```

2: Enter the name of the field (**checknum**).

→ *File-it!* displays the field name at the top of the screen as you enter it. The highlight in the schema table indicates the 30-character maximum length of a field name. You can use the BACKSPACE or left ARROW key to back up and correct any mistakes you make.

3: Press RETURN to tell *File-it!* that you have finished entering the field name.

→ *File-it!* moves the field name from the top line of the screen to its proper position in the schema table, moves the highlight to the Type column, and displays the Add Type menu at the top of the screen.

4: Press i (integer) to select the data type you want to store in this field. You can also use the SPACE bar to move the highlight to the desired data type and then press RETURN.

```
ADD NAME >>▯
Enter field name.  RETURN adds it.  DEL returns to Schema-design menu.
                                              Record size:  2
----- Page 1 of 1 ----- chkbook --------------- Press CONTROL-W for Help ----

Data Field Name                   Type            Length   Index  Duplicates

checknum_____    Integer            2    Index  No
[_____]
```

To add the other fields, follow the same steps that
were detailed in Example 2-3. Below is a list of the
questions that *File-it!* will ask about each of the
fields and an appropriate response for each
question.

ddate field.
Data Field Name	ddate
	(You cannot use the word date as the name of the field because it has a special meaning to *File-it!*. See Appendix B, "Reserved Words," for more information.)
Type	date
Index	yes
Duplicates	yes

payee field.
Data Field Name	payee
Type	character
Length	40
Index	no

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Changing the Database Specifications

Once you set up the schema for a database—even after you have put data into the database— *File-it!* allows you to change the way you store your data. Occasionally, making a change of this kind may have the side effect of losing some of your data. *File-it!* will always advise you of this situation and give you the option of not making the change. An example of a change that could cause a loss of data is changing a character field from a length of 20 to 10. *File-it!* would drop (truncate) the last ten characters of this field in each data record in the database.

Two options in the Schema-design menu allow you to change a schema: Change and Remove. Change allows you to make selected changes to parts of a field, while Remove deletes the specifications for an entire field (one row of the schema table). As with the Add option, you must select the Exit option when you are finished changing the schema. When the Exit menu is displayed, choose the Build-new-schema option so that *File-it!* makes the necessary changes to the database files. The Form-design menu appears on the screen next. Select the Exit option and then Build-new-form. (If you decide you do not want to keep the changes you have made, choose Keep-old-schema instead, and *File-it!* will restore the old schema.)

Changing a Field

The Change option allows you to change a field definition in the schema. You can change one part of a field or several parts.

Removing a Field

You can remove any field from the schema. Use the Remove option when you decide a field is no longer necessary in your database.

▤ Example 2-5

1: Select the Schema-design menu and use the ARROW keys to move the highlight to the field you want to delete. Select the Remove option by pressing r.

→ *File-it!* displays the screen shown below, with a message reminding you that this change will delete data when you select Build-new-schema.

```
REMOVE:    Yes  No
Deletes the highlighted field from the schema.
                                            Record size   95
----- Page 1 of 1 ----- chkbook -------------- Press CONTROL-W for Help ----

Data Field Name              Type          Length   Index   Duplicates

checknum                     Integer            2   Index   No
ddate                        Date               4   Index   Yes
payee                        Character         40
amount                       Money              8
notes                        Character         40
tax_ded                      Character          1



This change will delete data when you select Exit. Build.
```

2: Select the Yes option from the Remove menu.

→ *File-it!* removes the field from the screen and returns to the Schema-design menu.

3: Select Exit. Then select Build-new-schema. (If you decide you do not want to remove the field, select Keep-old-schema instead. *File-it!* restores the schema to the state it was in the last time you chose Build-new-schema.)

→ *File-it!* displays a screen telling you which fields you have deleted.

Chapter 3

Entering Data in Your Database

Now that you have defined the fields in your database, you can enter data into it. In this chapter you will learn how to enter data into the **chkbook** database you set up in Chapter 2. You will also learn how to update (change) a record and how to remove one.

▤ Example 3-1

This example displays the Data menu for the **chkbook** database.

1: After choosing the database you want (in this case, the **chkbook** database), select the Data option from the Top-level menu. If you have been using the Schema-design menu, select the Exit option. Then select Build-new-schema from the Exit menu. *File-it!* implements your schema as you have defined it before going to the Form-design menu. Select Exit and then Build-new-form. *File-it!* builds a new form for your database schema and displays the Top-level menu. Select the Data option.

→ *File-it!* displays the Data menu at the top of the screen and a form for the **chkbook** database on the lower portion of the screen.

```
DATA    Query, Next  Previous  Add  Update  Remove  Screen  Output  Exit
Searches the active database file.

----- Page 1 of 1 ----- chkbook --------------- Press CONTROL-W for Help ----

checknum          |0     |
ddate             |00 00 00|
payee             |                                              |
amount            |$0 00              |
notes             |                                              |
tax_ded           | |
```

▓ Example 3-2

This example adds the following sample record to the database.

check number:	101
date:	8/6/83
payee:	Pacific Gas and Electric Co.
amount:	$30.39
notes:	[blank]
tax deduction:	[blank]

1: After selecting the Data menu for the **chkbook** database (Example 3-1), select the Add option.

→ *File-it!* clears any data from the form on the screen and positions the cursor at the left of the first field. It puts a 0 in integer fields, 00/00/00 in date fields, and $0.00 in money fields. As you enter numbers into these fields, you overwrite these zero values.

```
ADD    ESCAPE adds new data.   DEL discards it.   ARROW keys move cursor.
Adds new data to the active database file.
                    Field  checknum              Type  integer
----- Page 1 of 1      --- chkbook ----  - --------- Press CONTROL W for Help ----

checknum            |.0|      |
ddate               |00 00 00|
payee               |                                            |
amount              |$0 00              |
notes               |                                            |
tax_ded             | |
```

2: Enter data in each field, making sure that the type of data you enter is appropriate to the field. For example, if you enter a letter in an integer field, *File-it!* will display the message Error in field. When a field is complete, press RETURN to move to the next field. You can back up within a field using the left ARROW key.

RETURN always moves the cursor to the next field on the screen. When the cursor is on the bottom field and you press RETURN, *File-it!* cycles it to the top field.

Editing function	Key and explanation
Delete characters	CONTROL-X erases the character the cursor is on. The cursor remains in place and characters to the right of it shift left to fill in the space that was occupied by the deleted character.
Insert characters	CONTROL-A acts as a toggle switch. Press CONTROL-A once to put *File-it!* into Insert mode; press it again to go back to the normal editing mode. While *File-it!* is in Insert mode, any characters you enter are put in immediately to the left of the cursor; the characters to the right of the cursor are pushed to the right. You can use CONTROL-A to insert missing characters in a line without reentering the entire line. Remember to press CONTROL-A a second time when you are finished using the Insert mode.
Clear to end of field	CONTROL-D erases any characters between the cursor and the end of the field. It performs the same function as entering a series of SPACEs until the rest of the field is filled with SPACEs.
Clear all fields	CONTROL-C clears all the fields on the screen. Its use is restricted to the Query option only.
Move back	The left ARROW key moves the cursor to the left without erasing characters, as does the BACKSPACE key. If your terminal does not have ARROW keys, use CONTROL-H.
Move forward	The right ARROW key moves the cursor to the right without erasing characters. If your terminal does not have ARROW keys, use CONTROL-L. Use the SPACE bar if you want to erase characters.
Move up	The up ARROW key moves the cursor up to the previous field. If your terminal does not have ARROW keys, use CONTROL-K.

check number: 102
date: 8/7/83
payee: County Water Supply
amount: $23.49
notes: check for leaks - this bill seems high
tax deduction: [blank]

check number: 103
date: 8/9/83
payee: Safeway
amount: $20
notes: cash
tax deduction: [blank]

check number: 104
date: 8/10/83
payee: Payless
amount: $39.28
notes: included camping supplies
tax deduction: [blank]

check number: 105
date: 8/25/83
payee: Telephone Co.
amount: $52.45
notes: deduct long distance calls
tax deduction: y

check number: 106
date: 8/27/83
payee: Safeway
amount: $20
notes: cash
tax deduction: [blank]

check number: 107
date: 9/1/83
payee: Safeway
amount: $47.52
notes: included Labor Day picnic
tax deduction: [blank]

check number: 108
date: 9/3/83
payee: CSAA
amount: $73.93
notes: this is deductible on business car only
tax deduction: y

```
REMOVE     Yes  No
Removes this record from the active database file.

----- Page 1 of 1 ----- chkbook ---------------- Press CONTROL-W for Help ----

checknum          |108   |
ddate             |09 03/83|
payee             |CSAA                                        |
amount            |$73.93          |
notes             |this is deductible on business car only |
tax_ded           |y|
```

> 2: If you want to delete the record, select the Yes
>   option. If not, select the No option.

> → *File-it!* displays the Data menu. If you selected
>   the Yes option and deleted a record, a Record
>   deleted message appears on the bottom of the
>   screen.

Leaving the Data Menu

When you have finished working with the Data
menu, select the Exit option. *File-it!* displays the
Top-level menu. To continue with *File-it!*, select
the appropriate menu item (Schema-design, Form-
design, Report-design, or Utility). To leave *File-it!*
and return to the operating system, select the Bye
option.

Chapter 4

Using Your Database

Now that you have built your database and put data into it, you can start to make *File-it!* work for you. This chapter explains how to query (ask questions of) your database and how to write the form to an output file or send the form to the printer. It uses the **chkbook** database that was created in Chapter 2 for examples and assumes that the data is the same as was entered in Chapter 3.

Query by Example

File-it! retrieves information from a database using a technique called *query by example*. This technique allows you to fill in a *File-it!* form (the same form you used to add data to the database) with an example of the way one or more fields look in the record(s) you want to find. When you were looking for Terry Green's address, you put the name "Green" in the **last_name** field as an example of what you wanted to find. *File-it!* found the record with Green in the **last_name** field.

The Current List of Records

A query searches through a database and causes *File-it!* to generate a list of records that satisfies the query. This list is called the *Current List of Records*, or simply the *Current List*, and can contain zero or more records. At most, it can contain all the records in the database. If no records satisfy your query, the Current List will contain zero records (you will see the message There are no records satisfying the conditions). *File-it!* maintains the Current List until you stop using the program or perform another query.

As an example of a query and the resulting Current List, assume that you ask *File-it!* to find

You can query your database so that *File-it!* generates a Current List containing *all* the records in the file by following the directions in Example 4-2 below.

You can look through the records in the Current List, one at a time, by repeatedly selecting the Next option. When you get to the end of the list, *File-it!* displays the message There are no more records in the direction you are going. You can also view the previous record by selecting the Previous option. You will get the same message when you reach the beginning of the Current List using the Previous option.

▓ Example 4-2

1: After selecting the Data menu, select the Query option.

→ *File-it!* clears any data from the form on the screen and positions the cursor at the left side of the first field.

2: Press ESCAPE.

→ *File-it!* displays the first record in the database and generates a Current List of all the records. The total number of records is displayed at the bottom of the screen.

```
DATA      Query  Next  Previous  Add  Update  Remove  Screen  Output  Exit
Searches the active database file

------ Page 1 of 1 ------ chkbook ---  ----------- Press CONTROL-W for Help ----

checknum          |101   |
ddate             |08 06 83|
payee             |Pacific Gas and Electric Co.          |
amount            |$30 39         |
notes             |                                      |
tax_ded           | |



8 record(s) found
```

Performing a Simple Query

A simple query is one that searches for one value in a single field, for example, "find all checks written to Safeway." To perform a simple query, select the Query option, enter the value you want to find in the field you want to find it in (called the *Search Field*), and press ESCAPE. *File-it!* will display the first record that satisfies the query. If more than one record satisfies the query (for example, if you wrote more than one check to Safeway), *File-it!* puts the records in the Current List and displays the number of records that satisfy the query at the bottom of the screen. You can select the Next and Previous options to look through all the records in the Current List.

If you make a mistake while you are entering data in a Search Field, you can correct it before you press ESCAPE. To correct an entry error, use the left ARROW or BACKSPACE key to move the cursor back over the error and then type the correct entry over the incorrect one. If you want to remove the entry altogether, move the cursor back to the beginning of the field and enter enough SPACES to erase all the characters you typed. You can also use the editing characters discussed in Chapter 3 to edit a Search Field.

Querying Integer Fields

To search for a record based on the contents of an integer Search Field, select the Query option, move the cursor to the Search Field, enter the number you want to search for, and press ESCAPE. This procedure is demonstrated below. *File-it!* will generate a Current List containing all the records with the specified number in the Search Field. If you enter an illegal value (for example, if you accidentally put a letter in the middle of a number), *File-it!* will not let you continue until you correct it.

```
DATA     [Query] Next  Previous  Add  Update  Remove  Screen  Output  Exit
Searches the active database file.

- - - - - Page 1 of 1 - - - - - chkbook - - - - - - - - - - - - - - - Press CONTROL-W for Help - - - -

checknum            [105    |
ddate               [08 25 83]
payee               [Telephone Co.                                    |
amount              [$52.45              |
notes               [deduct long distance calls                       |
tax_ded             [y|




   1 record(s) found
```

The **checknum** field is an index field that does not
allow duplicates. When *File-it!* searches for check
number 105, it will find only one record. It
generates a Current List that contains the one
record that satisfies the query. In this case the
Next and Previous options will not display
additional records because there are no other
records in the Current List.

Querying Character Fields

The next example demonstrates a query that puts
several records in the Current List.

A Word of Caution. When you are performing a
query based on a character field, make certain that
you enter the item you are searching for exactly
the same way you did when you put it into the
database—in the following example you must use
an uppercase S followed by all lowercase afeway.

```
DATA:  [Query]  Next  Previous  Add  Update  Remove  Screen  Output  Exit
Searches the active database file.

----- Page 1 of 1 ----- chkbook --------------- Press CONTROL-W for Help ----

checknum            |103    |
ddate               |08 09 83|
payee               |Safeway                              |
amount              |$20.00           |
notes               |cash                                 |
tax_ded             | |



 3 record(s) found
```

5: Select the Next option (press n) to see the next record in the Current List.

→ *File-it!* displays the next record.

6: Select the Next option (press n) to see the final record in the Current List; then press n again.

→ *File-it!* displays There are no more records in the direction you are going at the bottom of the screen, indicating that there is no next record in the Current List.

```
DATA.   Query  [Next]  Previous  Add  Update  Remove  Screen  Output  Exit
Shows the next record in the Current List.

----- Page 1 of 1 ---- chkbook --------------- Press CONTROL-W for Help ----

checknum            |107    |
ddate               |09 01 83|
payee               |Safeway                              |
amount              |$47.52           |
notes               |included Labor Day picnic            |
tax_ded             | |



 There are no more records in the direction you are going
```

7: Select the Previous option (press p) to display the previous record in the Current List. Press p again to display the first record in the Current List. Press p a third time to verify that there is no previous record in the Current List.

→ *File-it!* displays the message There are no more records in the direction you are going indicating that there is no previous record in the Current List.

4: Press ESCAPE.

→ *File-it!* adjusts the **amount** field (it puts in a dollar sign, a decimal point, and two zeros for the cents) and displays the first record that contains $20.00 in the **amount** field. You can view the other record in the Current List by selecting the Next option.

```
DATA:   Query:  Next  Previous  Add  Update  Remove  Screen  Output  Exit
Searches the active database file.

------ Page 1 of 1    --- chkbook    --    ----- Press CONTROL-W for Help ----

checknum            |103   |
ddate               |08 09 83|
payee               |Safeway                                              |
amount              |$20.00           |
notes               |cash                                                 |
tax_ded             | |




  2 record(s) found
```

Querying Date Fields

You must enter a date as three numbers separated by periods (8.25.83), SPACES (8 25 83), or slashes (8/25/83). *File-it!* will display an error message if any of the numbers is out of range (month greater than 12 or day greater than the number of days in the month) or if there are not three numbers. As with money search values, *File-it!* will adjust the date field as soon as you press ESCAPE.

```
DATA:  [Query]  Next  Previous  Add  Update  Remove  Screen  Output  Exit
Searches the active database file.

----- Page 1 of 1 ----- chkbook --------------- Press CONTROL-W for Help ----

checknum              |105    |
ddate                 |08/25/83|
payee                 |Telephone Co.                        |
amount                |$52.45          |
notes                 |deduct long distance calls           |
tax_ded               |y|




 1 record(s) found
```

Using Relational Operators

There are six relational operators. They are called
relational because they describe relationships
between a search value and the data in a field (for
example, all checks written for *more than* $20.00).

Relational operator	Meaning
<	less than
<=	less than or equal to
=	equal to
<>	not equal to
>=	greater than or equal to
>	greater than

You have already used one of the relational
operators without actually specifying it. When you
queried the database searching for check number
105, you implied an equal-to relationship. You can
perform the same search by entering =105 in the
checknum field during a query. Try it. (Normally,
there is no reason to type the equal sign.) You can
replace the equal sign with any of the relational

The example above does not include check number 104 in the Current List—to include it, use the greater-than-or-equal-to operator ($>=104$).

Querying Character Fields

When your query is based on a character field, greater-than means later in the alphabet (closer to z); less-than means earlier. In other words, a<z and z>a.

Any *lowercase* character is greater than any *UPPERCASE* character (a>Z).

Any *numeral* (in a character field) is less than an *UPPERCASE* or *lowercase* letter (9<a and 9<A).

Characters are evaluated from left to right, "dictionary" style. Thus "cobra" is less than "cow."

A Word of Caution. Make sure that you do not have a SPACE between the relational operator and the first character in the field. To check for names that are alphabetized after Sam, use the command >Sam not > Sam. If there is a SPACE between the operator and the first character, *File-it!* will look for a field that begins with a SPACE, not the character you intend.

▓ Example 4-9

This query searches for all checks written for $25 or more.

1: After selecting the Data option, select the Query option.

→ *File-it!* clears any data from the form on the screen and positions the cursor at the left of the first field.

2: Use the RETURN key to move the cursor to the **amount** field.

→ *File-it!* will position the cursor at the left end of the **amount** field.

3: Enter the search value (>=25) and press ESCAPE. You do not have to enter a dollar sign and, because there are no cents involved, you do not need a decimal point.

→ *File-it!* adjusts the field and displays the first record that contains $25.00 or more in the **amount** field.

Querying Date Fields

When you use a relational operator to search for a date, *greater-than* means after and *less-than* means before.

4: Press ESCAPE.

→ *File-it!* removes the bottom line when you press
    ESCAPE. *File-it!* displays the first record that
    contains 08/31/83 or earlier in the **ddate** field.

Searching for a Range of Values

Sometimes it is necessary to search for values that
lie between two values, not just those that are
greater than or less than a search value. A colon
(:), called the *range operator*, allows you to perform
this type of query. It represents all the values
between and including the values on both sides of
it.

▓ Example 4-11

This query searches for all records with **checknum**
from 103 through 106.

1: After selecting the Data option, select the
    Query option.

→ *File-it!* clears any data from the form on the
    screen and positions the cursor on the first
    field—the **checknum** field. The cursor is
    already on the Search Field so you do not have
    to move it.

2: Enter the range of search values (103:106).

→ *File-it!* moves the cursor to the expanded
    Search Field at the bottom of the screen when
    you run out of room in the original Search
    Field.

search a character field using the range operator. When you enter A:M in a character Search Field, for example, *File-it!* searches for all records that contain fields that *start* with any character from A through M, not just those that contain exactly A, B, C, ..., M (that is, it will find America, British Isles, Canada, and so forth). Remember that *File-it!* does not look for uppercase and lowercase letters at the same time—it will not find words like another, brother, or cable in this search.

Using a Wildcard in a Character Search

When you put an asterisk (*) in a character Search Field, the asterisk represents any group of characters. This feature is useful for searching through comment fields to find important words.

▓ Example 4-12

This query searches for records that contain the word deduct anywhere in the notes field.

1: After selecting the Data option, select the Query option.

→ *File-it!* clears any data from the form on the screen and positions the cursor at the left of the first field.

2: Use the RETURN key to move the cursor to the notes field.

→ *File-it!* positions the cursor at the left end of the notes field.

Performing a Complex Query

A *simple query* looks for specific data in *one field* of a database (for example, find all records with the **ddate** field less than 8/28/83, *or* the **payee** field starting with a letter between N and Z, *or* the **amount** field greater than $25).

A *complex query* looks for data in *more than one field* of a database (for example, find all records with the **ddate** field less than 8/28/83, *and* the **payee** field starting with a letter between N and Z, *and* the **amount** field greater than $25).

You perform a complex query just as you perform a simple query, except that you fill in the data you are looking for in more than one field before you press ESCAPE. *File-it!* then generates a Current List that contains only records that satisfy *all* of the components of the complex query.

▤ Example 4-13

This example searches the **chkbook** database for all records with the **ddate** field less than 8/28/83, the **payee** field starting with a letter between N and Z, and the **amount** field greater than $25.

1: After selecting the Data option, select the Query option.

→ *File-it!* clears any data from the form on the screen and positions the cursor at the left of the first field.

2: Use the RETURN key to move the cursor to the **ddate** field and enter <8/28/83. Do *not* press ESCAPE.

The following example shows how to create an
output file.

▤ Example 4-14

This procedure creates an output file for the
chkbook database.

1: Use the Query option to generate a Current
   List by entering the range 101:108 in the
   checknum field. Now the Current List
   contains eight records. Select the Output
   option from the Data menu. Then select the
   Form option.

→ *File-it!* displays the screen shown below.

```
FORM OUTPUT FILE LIST:   Current-list  One-page
Writes the Current List to a file or the printer in form format.

----- Page 1 of 1 ----- chkbook ---------------- Press CONTROL-W for Help ----

checknum              [101   |
ddate                 [08 06 83]
payee                 [Pacific Gas and Electric Co.              |
amount                [$30.39          |
notes                 [                                          |
tax_ded               [ |
```

2: Select the One-page option to write this screen
   page to the output file. Select the Current-list
   option to write the entire Current List to the
   output file. The next screen is the same,
   whichever option you select.

→ *File-it!* displays the menu shown below.

```
FORM OUTPUT TO:   File  Printer
Writes the selected records to a file in form format.

----- Page 1 of 1 ----- chkbook ---------------- Press CONTROL-W for Help ----
```

3: Select the File option.

→ *File-it!* displays the following screen.

▓ Example 4-15

1: Select the Output option from the Data menu.
Then select the Form option from the Output
Type menu.

→ *File-it!* displays the Form Output File List
menu.

2: Select the Current-list option if you want to
print the entire Current List. Select the One-
page option if you only want to print the page
displayed on the screen.

→ *File-it!* displays the Form Output To menu in
either case.

3: Select the Printer option.

→ *File-it!* flashes the records on the screen as they
are sent to the printer, and displays Output
record number x where x is the number of the
record being output. Make no entries until all
records have been sent to the printer and
File-it! displays the Data menu.

Leaving the Data Menu

When you have finished working with the Data
menu, select the Exit option. *File-it!* displays the
Top-level menu. To continue with *File-it!*, select
the appropriate menu item (Schema-design, Form-
design, Report-design, or Utility). To leave *File-it!*
and return to the operating system, select the Bye
option.

Chapter 5

Designing a Form

So far you have learned to use two important parts of *File-it!*, the Data and Schema-design menus.

Chapters 1, 2, and 4 discussed using the Data menu and selecting the Data menu from the Top-level menu whenever you want to work with the *data* in your database. The options in the Data menu allow you to

- Put data in your database
- Remove data from your database
- Search the database for particular pieces of data
- Prepare a printable output file containing only the data you specify

Chapter 3 discussed using the Schema-design menu and selecting Schema-design from the Top-level menu whenever you want to work with the *structure* of your database. The options in the Schema-design menu allow you to

- Define a database file by specifying the attributes (name, data type, etc.) of each field in a record
- Change the definition of the database file by changing one or more field attributes in a record
- Change the definition of the database file by removing all the attributes of a field in a record
- Build a database file

The options in the Schema-design menu all concern data definition and data organization. You never enter, remove, change, or even view data in any of the Schema-design options. Instead you set up a format (schema) to interpret and store the data you enter with the various Data options.

database.

- Then use Form-design to design how you want the form or data to look.

- Then use Data to enter, search for, and remove data.

When you are using *File-it!* and you want to make changes:

- Use Schema-design to change the kind of data you store (data types, indexes, length of character fields)

- Use Form-design to change the way the form or data looks or to control data input

- Use Data to change the data without changing the database design or the form design

The changes you make in Schema-design affect both Data and Form-design. After you change the database file definition in Schema-design, you have to build a new form in Form-design to ensure that the form is compatible with the schema.

The changes you make in Form-design can affect the way the form looks in Data as well as how you enter and remove data, query the database, and update the database in Data.

The changes you make in Data do not affect Schema-design or Form-design because Data controls data only, not how it is defined or how it is presented.

A Schema-design screen and a Form-design screen are shown below. The Schema-design screen shows the database definition of a record in the **chkbook** database. The Form-design screen shows how the form looks when it is displayed in Form-design. It is a default form produced by selecting the Exit and Build options in Form-design; none of the other options in Form-design have been used.

with Form-design and Data. But **tax_ded** still appears on the database schema when you use the Schema-design menu and on the third line of the screen when the cursor is inside the field brackets in Form-design and Data. The data field name has not changed—you have only given it a new label for your convenience.

When you add data to the database using the Data menu Add option, the screen looks like the one below.

```
ADD:   ESCAPE adds new data.   DEL discards it.   ARROW keys move cursor.
Adds new data to the active database file.
               Field: tax_ded                    Type: character
----- Page 1 of 1 ----- chkbook --------------- Press CONTROL-W for Help ----


Check # |109        |        Date |09/03/83|

Payee    |First Federal Savings                    |

Amount   |$75.00        |

Tax Deductible? |☐|


        ..............................................
                        Comments
        |                                            |
```

The form you see when you are working with the Data menu always looks like the form you created with Form-design.

Using the Form-design Menu

As with the Schema-design menu, you use the various options of the Form-design menu to set up the form the way you want it. When you are finished with your modifications, select the Exit option. *File-it!* displays the Exit menu. Select Build-new-form when you want the changes to the form to become permanent. Select Keep-old-form when you want *File-it!* to ignore the changes you have made in this session. Both Exit options return you to the Top-level menu.

Adding Blank Lines and Pages

The Add option of the Form-design menu allows you to add a blank line or page to the form. Add a blank line to divide one group of fields from another—perhaps to separate numeric data from character data or to isolate a particularly important field. Add a blank page to have room to spread out the information on your form—intersperse field and text lines or add blank lines. You can also add a page to put part of your form on the second page for more convenient handling. (See Example 5-14 for information on moving fields, lines, and words.)

After you select the Add option, *File-it!* displays the Add menu. The Add menu allows you to select whether you want to add a line or a page to the form. The following examples explain how to use the Add option. (Examples 5-12 and 5-13 explain how to use the Remove option to delete a line or a page that does not contain display fields.)

▤ Example 5-2

This procedure adds a blank line to the form.

1: After selecting the Form-design menu from the Top-level menu, select the Add option. Use the ARROW keys to move the cursor to the line *below* where you want to put the blank line.

→ *File-it!* displays the Add menu as shown below.

▓ Example 5-3

This procedure adds a blank page to the form.

1: After selecting the Form-design menu from the Top-level menu, locate the page you want (if you have more than one page) by pressing the s key (for the Screen option) until you reach the page in question. Select the Add option.

→ *File-it!* displays the Add menu.

2: Select the Page option from the Add menu.

→ *File-it!* displays the Add Page menu shown below.

```
ADD PAGE:    [After]  Before
Adds a blank page after this page

----- Page 1 of 1 ----- chkbook ---------------- Press CONTROL-W for Help ----
```

3: Select the Before or After option depending on whether you want *File-it!* to put the blank page before or after the page that is displayed on the screen. (If you decide you do not want a new page, press DEL to go back to the Form-design menu.)

→ *File-it!* inserts the blank page and then displays it. The page counter on the fourth line always indicates what page *File-it!* is displaying.

Changing the Width of a Display Field

File-it! changes the display width of a field by moving the right side of the field while leaving the left side stationary. (You can move the left side, together with the entire field, by using the Move option—see Example 5-14.)

You cannot change the width of a display field containing date, edate, or ydate data (see Appendix A). You cannot change the width of a display field containing character data, but you can rearrange the display field so that the same number of characters appear on more than one line.

▓ Example 5-4

This procedure changes the width of a display field that does not contain date, edate, ydate, or character data.

1: Use the ARROW keys to move the cursor inside the brackets of the display field whose width you want to change. Select the Change option from the Form-design menu.

→ *File-it!* displays the Change menu.

2: Select the Width option.

→ *File-it!* displays the Change Width screen with the data field name and the data type of the display field at the top of the page.

3: Use the left ARROW key to make the display field smaller and the right ARROW key to make it larger.

→ *File-it!* will display a message at the bottom of the screen if you try to make the field too big or too small, or if you try to change the width of a type character, date, edate, or ydate display field.

2: Use the ARROW keys to move the cursor inside the brackets of the character display field you want to change. Select Change. Then select Width.

→ *File-it!* displays the Change Width screen.

3: Use the left ARROW key to make the field smaller.

→ *File-it!* automatically puts brackets on the second line when you decrease the width of the first line.

4: Press RETURN to set your change. *File-it!* displays the Form-design menu.

Changing the Default Value of a Display Field

The Default option makes it easy for you to enter the same value in a field over and over when you are adding data. *File-it!* displays the default value you specify for a field each time you start to add a new record to the database. You can accept the default value by not entering anything in that field and pressing RETURN, or you can write over the default value by entering a new value in that field.

Use a default value to save time entering data. When most of the people in your **names** database live in San Francisco, for example, you can enter San Francisco as the default value for the **city** field. Then when you are entering new names, you need only press RETURN for the **city** field, and *File-it!* will automatically insert San Francisco. You can override the default by entering other data in the **city** field.

To make today's date the default value in a date field, enter the word today as the default value.

Changing the Comment Associated with a Display Field

Use a comment to remind yourself of special data entry conditions, such as format, picture, or range (see following sections). Make notes about your data or your procedures. You can have a comment for each field.

File-it! displays the comment that is associated with a display field while you are using the Data menu and the cursor is within the field. You can move the cursor to the field while you are adding, updating, or querying for a record. The comment appears at the bottom of the screen.

▓ Example 5-7

This procedure enters a comment for a display field.

1: After selecting the Form-design menu, use the ARROW keys to position the cursor in the appropriate display field. Select the Change option and then the Comment option.

→ *File-it!* displays the screen shown below.

```
CHANGE COMMENT:  Enter the comment for the active data field.
>>[]
                 Field: checknum                Type: integer
----- Page 1 of 1 ----- chkbook --------------- Press CONTROL-W for Help ----
```

2: If there is a comment already associated with the display field, the comment will appear at the top of the screen, after the angle brackets. If no comment is associated with the field, the angle brackets will have SPACES after them. In either case, enter the comment you want.

Experiment with the Format option to find how your machine responds to the varying number of places to the right of the decimal point.

In setting a format, also consider what kind of data you have in float data fields. Make sure your format is big enough for each item you will enter. If your format is ##.####### and you enter a number such as 22222222.33 in Data, there will not be enough spaces for the number in the format. *File-it!* will not be able to format the number and you may get an unexpected display.

If the number you enter overlays the zeros already in the field when you are using Data, add a SPACE after your number so that *File-it!* knows where the entered number ends and can format it properly.

Depending on how your computer stores floating point numbers, you may not be able to get an exact match when you use the Query option to search the database for a particular value in a floating point field. However, you can use the range operator (:) to search the database for a range that includes the value you are looking for (for example, 22.2:22.4).

▤ Example 5-8

This procedure specifies a format for a type float display field.

1: Use the ARROW keys to move the cursor inside the brackets of the type float display field whose format you want to specify. Select the Change option from the Form-design menu. Then select the Format option from the Change menu.

→ *File-it!* displays the screen shown below.

▤ Example 5-9

This procedure sets a range of allowable values for any display field.

1: Use the ARROW keys to move the cursor inside the brackets of the display field for which you want to set low and high limits. Select the Change option from the Form-design menu. Then select the Range option from the Change menu.

→ *File-it!* displays the screen shown below.

```
CHANGE RANGE:   Enter minimum and maximum values for the active data field
Sets ranges of allowed values for a data field.
               Field: checknum              Type: integer
----- Page 1 of 1 ----- chkbook --------------- Press CONTROL-W for Help ----




Adding to an existing list of 0 pairs of values

Low limit:  [□      ]

High limit: [       ]
```

2: Enter the low limit and press RETURN. Enter the high limit and press RETURN. You may enter more than one pair of values as the range for a data field. For example, you could enter 1 and 99 as the first pair, 300 and 700 as the second, and 1100 and 1500 as the third. After you enter the first pair of values, the message on the screen changes to Adding to an existing list of 1 pairs of values. Enter your second pair of values (300 and 700). The message changes again to Adding to an existing list of 2 pairs of values. Enter your third pair of values (1100 and 1500). Once again, the message changes. When you have entered all the pairs of low and high limits you want for this field, press DEL.

→ *File-it!* displays the Form-design menu.

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literals (that is, if you enter a character other than
A, X, or #, it appears on the screen in the position
you specified every time you use the Add and
Update options of the Data menu—you cannot
enter a different character for that position).

You can specify a picture with character display
fields only.

▓ Example 5-10

This procedure enters a picture for a social security
number in the **employee** database.

1: Use the ARROW keys to move the cursor inside
the brackets of the character field you want to
have a picture. Select the Change option from
the Form-design menu. Then select the Picture
option from the Change menu.

→ *File-it!* displays the screen shown below.

```
CHANGE PICTURE  ·[]              ...
Enter picture for the active data field.
             Field:  soc_sec              Type. character
----- Page 1 of 1 ----- employee --------------- Press CONTROL-W for Help ----
```

2: Enter ###/##/####. This allows three
numbers, a slash, two numbers, a slash, and
four numbers.

→ *File-it!* displays the picture on the top of the
screen as you enter it.

3: Press RETURN to set the picture and return to
the Form-design menu. (If you make a
mistake, you can use the BACKSPACE or left
ARROW key to back up and correct it, or you can
press DEL to erase the picture and return to the
Form-design menu.) When you have finished
your changes for this session, select Exit and
Build-new-form.

Nor should you choose the Zero Fill option for a character field.

Use Options to save time entering data, to prevent errors, and to specify how your data will look when you enter it.

Use the following procedure to turn on one or more options in the field you are working with. There is a description of each of the options following the example.

▓ Example 5-11

This procedure enters Options.

1: Use the ARROW keys to move the cursor inside the brackets of the display field for which you want to set Options. Select Change from the Form-design menu. Then select Options from the Change menu.

→ *File-it!* displays the following screen. The third line of the screen contains information about the field you are working with.

```
CHANGE OPTIONS:
Enter Y for Yes, N for No.  ESCAPE enters changes.  DEL discards changes.
                 Field: checknum                    Type: integer
----- Page 1 of 1 ----- chkbook ---------------- Press CONTROL-W for Help ----

[N] VERIFY:         Requires data entry twice in this field

[N] REQUIRED:       Requires data entry in this field

[N] NOUPDATE:       Prevents updates in this field

[N] NOENTRY:        Prevents data entry in this field

[N] REVERSE:        Displays this field in reverse video

[N] RIGHT JUSTIFY:  Displays the data in this field right justified

[N] ZERO FILL:      Displays the data in this field zero filled

[N] UPSHIFT:        Changes the data in this field to uppercase

[N] DOWNSHIFT:      Changes the data in this field to lowercase

[N] AUTONEXT:       Goes to next field after the last character is typed
```

Noupdate Option. The Noupdate option prevents changes in a field while you are updating.

Use the Noupdate option when you do not want anyone to change data in a field after it has been entered. *File-it!* will not let the cursor stop on a data field which has Noupdate specified. You cannot alter the data unless you remove the Noupdate option.

Noentry Option. The Noentry option prevents data entry in a field.

Use the Noentry option when you do not want anyone to enter data in a field. If you select Add in Data, *File-it!* will not let the cursor stop on a Noentry field. You cannot enter data unless you remove the Noentry option. However, you can change existing data in a Noentry field by using the Update option.

Reverse Option. The Reverse option displays a field in reverse video (dark characters on a light field). For terminals without reverse video capability, *File-it!* puts angle brackets (< and >) around the field.

Use the Reverse option to make it easy to find a particular field on the form.

Right Justify Option. The Right Justify option aligns data with the right margin of a field after you press RETURN.

Use the Right Justify option when you want the data in a field lined up against the right bracket. You can use it with any data type.

but no display fields. After deleting a field in Schema-design, for example, use the Remove option to delete the data field name from the form.

(Example 5-2 shows you how to add a blank line; Example 5-3 shows you how to add a blank page.)

▧ Example 5-12

This procedure removes a line which has no data.

1: After selecting Form-design, select the Remove option.

→ *File-it!* displays the following screen with the highlight on the Line option.

```
REMOVE:    [Line]  Page
Removes a line not containing data fields.

----- Page 1 of 1 ----- chkbook --------------- Press CONTROL-W for Help ----
```

2: Use the ARROW keys to position the cursor on the line you want to remove. Press RETURN.

→ *File-it!* removes the line and displays the Form-design menu.

The Remove option can delete any page that does not contain data fields.

▨ Example 5-14

This procedure moves a field.

1: After selecting the Form-design menu, select the Move option.

→ *File-it!* displays the following screen.

```
MOVE:    [Field]  Line  Word
Moves the active data field to a new location.

----- Page 1 of 1 ----- chkbook --------------- Press CONTROL-W for Help ----
```

2: Use the ARROW keys to position the cursor inside the brackets of the field you want to move. Then select the Field option.

→ *File-it!* displays the screen shown below and temporarily erases the brackets of the field you want to move. (If you are moving a word or a line, *File-it!* also erases it at this point.)

```
MOVE FIELD:   ARROW keys move cursor.   RETURN sets new location.
Moves the active data field to a new location.       CONTROL-N for screen
                Field: checknum              Type: integer
----- Page 1 of 1 ----- chkbook --------------- Press CONTROL-W for Help ----
```

3: Use the ARROW keys to move the cursor to the new field location. If you are moving the field to the left edge of the screen or right next to another field or word, allow one SPACE to the left of the cursor for the temporarily-invisible left bracket. Then press RETURN. (If you want to move the field to another page, use CONTROL-N to find the page. Once on the correct page, use the ARROW keys to move the cursor. Press RETURN when you are finished.)

→ *File-it!* displays the Form-design menu with the field in its new location on the form.

▓ Example 5-15

This procedure preserves or discards changes you have made to the form in this session with Form-design.

1: After you have finished working with the form, select the Exit option.

→ *File-it!* displays the screen shown below.

```
EXIT:    Build-new-form  Keep-old-form
Builds a new form and returns to the Top-level menu.

----- Page 1 of 1 ----- chkbook ---------------- Press CONTROL-W for Help ----
```

2: If you want the changes you have just made to be permanent, select Build-new-form. If you want to discard the changes you have just made, select Keep-old-form.

→ *File-it!* returns you to the Top-level menu.

Quitting the Form-Design Menu

To leave the Form-design menu, select the Exit option. *File-it!* will display the Exit menu. If you have just been working on form changes and want to make them permanent before you leave Form-design, select Build-new-form. If you have not made any changes or do not want to keep the changes you have made, select Keep-old-form. Both Exit options return you to the Top-level menu.

To continue using *File-it!*, select the appropriate

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Chapter 6

Designing a Report

What Is a Report?

A report is your data, arranged in a format you design, and displayed where you specify; on the screen or on paper. You can also store a report in an operating system file for future use. A *File-it!* report can sort records and produce subtotals and totals. One of the examples in this section shows you how to use *File-it!* to print mailing labels.

Preparing a report is a two-step process. First you must design the report—decide what fields go where. Then you can run it and see the results.

Designing a Report

Using the *File-it!* Report-design options, you can design formats for two kinds of printable reports: a column report and a line report. Either report can be displayed on screen, written to a file for storage or editing, or sent directly to the printer.

A column report lists fields in columns, with each record taking up an entire row. A column report based on the **chkbook** database might look like this:

provides the following margins.

Margin	Size
left	5 spaces
bottom	1 line
top	1 line

For a report sent to an output file or the printer, *File-it!* provides the following margins.

Margin	Size
left	5 spaces
bottom	3 lines
top	3 lines

When you are finished designing the report, the Preview option allows you to see what your data looks like in your report. Then, if you want, you can modify the design of the report. When you are satisfied with the design of the report, build the report by selecting the Build-new-report option from the Column-report or Line-report Exit menu. When *File-it!* builds a report, the report becomes the current report. Each database file can have one current report at a time. *File-it!* automatically displays the current report for the active file when you select the Report-design option. If there is no current report, *File-it!* displays the New Report Format menu, which offers a choice of the line and column formats.

Running a Report

You must run a report by selecting the Output option from the Data menu.

After you design what a report will look like, you need to tell *File-it!* which records to include in the report. You can include the entire database in the

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```
COLUMN-REPORT:    [Change]  Headings  Title  New-report  Screen  Preview  Exit
Adds or changes report characteristics for the active field.
                  Field: checknum                    Type: integer
----- Page 1 of 1 ----- chkbook --------------- Press CONTROL-W for Help ----

  Name                         Order  Width  Sort  Total  Subtotal

  checknum                          [_____]
  ddate
  payee
  amount
  notes
  tax_ded
```

The Change Option

The Change option allows you to enter new design values in the Column-report format *or* to change existing design values. Using the Change option, you can specify the

- Field order
- Field width
- Sort field
- Subtotal fields
- Total fields

After selecting the Change option from the Column-report menu, use the ARROW keys to put the screen highlight on the item you want to enter or change. *File-it!* displays the appropriate screen for the item. Enter a number or select a menu option, depending on the screen. Press RETURN to enter the new value and display the Column-report menu again.

You can also make several entries before returning to the Column-report menu. After you make an entry, do NOT press RETURN. Instead, use the ARROW keys to move the screen highlight to the item you want to work with next. When you select a menu option, do NOT enter the first letter of the option. Use the SPACE bar to move the menu highlight over the option you want. Then use the ARROW keys to move the screen highlight to the item you want to work with next.

While the screen highlight is over an item, *File-it!*

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Field	Default Width
character	the width you specified in Schema-design
integer	6
long	11
float, single	11.2
float, double	14.2
serial	11
date	8
edate	8
ydate	8
money	15

You can decrease the width of any field. You cannot increase the width of a character field beyond the size specified in Schema-design. All the other data types have a maximum width of 20.

The notation 11.2 for a single-precision floating point number means that the number has a total width of 11 (including one place for the decimal point) with 2 places to the right of the decimal point. The notation for the double-precision floating point number follows the same convention. The number of places to the right of the decimal point cannot exceed the total number of places in the number minus one for the decimal point—14.13 is valid; 14.14 is not.

After selecting the Change option from the Column-report menu, use the ARROW keys to position the screen highlight over the item you want to add or change. Enter a value and press RETURN, or use the ARROW keys to move the screen highlight to the next item you want to work with.

Sort. If you want subtotals and totals, decide what field you want to sort on. You can have one sort field per report. *File-it!* calculates subtotals each time the value of the sort field changes. The **chkbook** report shown above is sorted on the **payee** field, but you could design a report that

The Headings Option

Your report can include column headings. *File-it!* uses the Data Field Names you entered in Schema-design as the column headings. If the Data Field Name will not fit in the column width you specified for its field, *File-it!* automatically expands the width of the field.

For example, the **chkbook tax_ded** field is only one character wide. Normally, a character field cannot be wider than its schema specification. However, if you use the **tax_ded** field in a report that calls for column headings, *File-it!* will allow a width of seven for it, so that there will be room for tax_ded to print at the top of the column. The entries you make for the Width column do not change to reflect the adjustments *File-it!* makes for column headings.

The report below has the same Width column specifications as the "Check Totals" report shown at the beginning of this chapter. All design elements are exactly the same except that this report has column headings. The spacing between the **checknum** and **payee** fields is different because of the headings.

displays the title after the brackets. You can erase an existing title by entering SPACES over it.

The New-report Option

The New-report option allows you to erase the existing column report format and prepare a new report format. When you select the New-report option, *File-it!* displays the New Report Format menu. Select the option you want (Column-report or Line-report). *File-it!* displays the appropriate menu.

The Screen Option

The Screen option allows you to look at the next screen of fields. You will need to use the option only when you have enough fields in a record to occupy more than one page in Schema-design.

After you select the Change option in Column-report and enter the specifications for the first-page fields you want to include in your report, press RETURN to save those entries and display the Column-report menu. Then select the Screen option. *File-it!* displays the next screen page, with the Column-report menu at the top. Select the Change option and enter the specifications for the second-page fields you want to include in your report. When the last page of a report is displayed on the screen and you select the screen option, *File-it!* displays the first page of the report.

The Preview Option

The Preview option allows you to look at a report format before you build it. *File-it!* displays the report on the screen, using up to 75 records from the active file. The data in the report may not be properly sorted—this display just lets you check the appearance of the report format. You must build the report and then use the Output option of

this chapter describes how to use the Data options
to send your report to the screen, a file, or the
printer.

If necessary, use the Utility menu described in
Chapter 7 to select **chkbook** as the active file.
Then use the Query option of the Data menu to
make sure that your **chkbook** database includes
the following records:

check number: 101
date: 8/6/83
payee: Pacific Gas and Electric Co.
amount: $30.39
notes: [blank]
tax deduction: [blank]

check number: 102
date: 8/7/83
payee: County Water Supply
amount: $23.49
notes: check for leaks - this bill seems high
tax deduction: [blank]

check number: 103
date: 8/9/83
payee: Safeway
amount: $20
notes: cash
tax deduction: [blank]

check number: 104
date: 8/10/83
payee: Payless
amount: $39.28
notes: included camping supplies
tax deduction: [blank]

check number: 105
date: 8/25/83
payee: Telephone Co.
amount: $52.45
notes: deduct long distance calls
tax deduction: y

check number: 106
date: 8/27/83
payee: Safeway
amount: $20
notes: cash
tax deduction: [blank]

→ *File-it!* displays the Change Order screen.

```
CHANGE ORDER >>·
Enter an order number for this field. RETURN sets it. DEL discards it.
                  Field: checknum                    Type: integer
----- Page 1 of 1 ----- chkbook ---------------- Press CONTROL-W for Help ----

Name                          Order  Width  Sort  Total  Subtotal

checknum                       [_____]
ddate
payee
amount
notes
tax_ded
```

4: Enter 1 after the double angle brackets at the
    top of the screen and press RETURN.

→ *File-it!* moves 1 to its proper place in the
    column report table, automatically enters the
    default field width of 6 in the Width column,
    and displays the Column-report menu.

5: Use the ARROW keys to move the screen
    highlight down one line, to the **ddate** Order
    location. Select the Change option, and enter 3
    after the double angle brackets. This time, do
    not press RETURN. Instead, use the down ARROW
    key to move the screen highlight down one
    line.

→ *File-it!* enters 3 in the Order column for **ddate**
    and 8 in the Width column.

6: In the same way, enter 2 for the **payee** field in
    the Order column and 4 for the **amount** field.

→ *File-it!* displays the following screen. (The
    entries for **amount** will not appear on the
    screen until you move the highlight or press
    RETURN.)

```
CHANGE TOTAL:      Yes  [No]
Does not calculate a total for this field.
                Field: amount                    Type: money
----- Page 1 of 1 ----- chkbook --------------- Press CONTROL-W for Help ----

  Name                          Order  Width  Sort  Total  Subtotal
```

10: Select the Yes option by using the SPACE bar to move the menu highlight over it. Then use the ARROW keys to move the screen highlight over the Subtotal column for the **amount** field.

→ *File-it!* puts Total in the Total column and displays the Change Subtotal menu.

```
CHANGE SUBTOTAL:     Yes  [No]
Does not calculate a subtotal for this field.
                Field: amount                    Type: money
----- Page 1 of 1 ----- chkbook --------------- Press CONTROL-W for Help ----

  Name                          Order  Width  Sort  Total  Subtotal
```

11: Select the Yes option by using the SPACE bar to move the menu highlight over it. Press RETURN, since all entries for the Change option are complete.

→ *File-it!* enters Subtotal in the Subtotal column and displays the Column-report menu again.

12: Select the Title option.

→ *File-it!* displays the following screen.

```
TITLE >>[]
Enter a report title.  RETURN sets it.  DEL discards it.
                Field: amount                    Type: money
----- Page 1 of 1 ----- chkbook --------------- Press CONTROL-W for Help ----

  Name                          Order  Width  Sort  Total  Subtotal
```

13: Enter **Check Totals** after the double angle brackets at the top of the screen. Press RETURN.

→ *File-it!* displays the Column-report menu.

```
LINE-REPORT:    [Change]  Title  New-report  Screen  Preview  Exit
Adds or changes report characteristics for the active field.
                Field:  first_name              Type:  character
----- Page 1 of 1 ----- names ---------------- Press CONTROL-W for Help ----
```

```
Name                          Order  Width  Sort  Total  Subtotal  Separator

first_name                    [    ]
last_name
address1
address2
city
state
zip
phone
```

The Change Option

The Change option allows you to enter new design values in the Line-report format or to change existing design values. Using the Change option, you can specify the

- Field order
- Width
- Sort field
- Subtotal fields
- Total fields
- Field separators

Select the Change option from the Line-report menu. Then use the ARROW keys to put the screen highlight on the item you want to enter or change. *File-it!* displays the appropriate screen for the item. Enter a number or select a menu item, depending on the screen. Press RETURN to enter the new value and display the Line-report menu again.

You can also make several entries before returning to the Line-report menu. After you make an entry, do NOT press RETURN. Instead, use the ARROW keys to move the screen highlight to the item you want to work with next. When you select a menu option, do NOT enter the first letter of the option. Use the SPACE bar to move the menu highlight over the option you want. Then use the ARROW keys to move the screen highlight to the item you want to work with next.

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Field	Default Width
character	the width you specified in Schema-design
integer	6
long	11
float, single	11.2
float, double	14.2
serial	11
date	8
edate	8
ydate	8
money	15

As in the column report, you can decrease the width for any field. You cannot increase the v idth of a character field beyond the size specified ii. Schema-design. All the other data types have a maximum width of 20.

The notation 11.2 for a single-precision floating point number means that the number has a total width of 11 (including one place for the decimal point) with 2 places to the right of the decimal point. The notation for the double-precision floating point number follows the same convention. The number of places to the right of the decimal point cannot exceed the total number of places in the number minus one for the decimal point—14.13 is valid; 14.14 is not.

Since *File-it!* left justifies character fields and strips them of trailing blanks, and right justifies numeric fields, stripping them of leading blanks, the Width option is mainly useful for truncating character fields that are too long.

After selecting the Change option from the Line-report menu, use the ARROW keys to put the screen highlight over the item you want to add or change. Enter the value and press RETURN, or use the ARROW keys to move the screen highlight to the next item you want to work with.

Separator.   The Separator column allows you to specify delimiters between fields in a line report.

File-it! displays the Separator menu after you select the Change option and use the ARROW keys to move the highlight over the Separator column. You can choose to have from zero to five lines separating two fields, or you can select the Other option.

When you enter an order number for a field, *File-it!* enters the default Separator, which is 1-line. This means that the next field will start on the following line. A 0-lines Separator means that the next field will be on the same line.

The Other option allows you to enter a string of up to 10 characters to separate two fields. When you specify a separator string for a field, *File-it!* automatically removes the spaces between *all* fields. You can still separate fields with blank lines. Use the Other option when you want to prepare a report that can be read by another program.

After selecting the Change option from the Line-report menu, use the ARROW keys to move the screen highlight to the Separator column for the field you want to change or enter a Separator for. When *File-it!* displays the Separator menu, enter the first character of the option you want; 0 (zero) for 0-lines, 1 for 1-line, 2 for 2-lines, 3 for 3-lines, 4 for 4-lines, 5 for 5-lines, or o (letter "oh") for Other. *File-it!* puts the option you chose in the Separator column for this field. You can also use the SPACE bar to put the menu highlight over the option you want to select and then use the ARROW keys to move the screen highlight to the next item you want to work with.

The Preview Option

The Preview option for the Line-report menu allows you to look at a report format before you build it. When you select the Preview option, *File-it!* displays the report on the screen, using up to 75 records from the active file. The data in the report may not be properly sorted—this display just lets you check the appearance of the report format. You must build the report and then use the Output option of the Data menu to see the actual report.

You can adjust column orders, change widths, vary the sort, total, and subtotal fields, and change the title after you inspect the preview report. For a report formatted to go to the printer, the width of your printer paper may be different than the width of the screen. Horizontal lines may "wrap around" when you preview the report on the screen. If the report is properly formatted for your printer, the lines will not wrap when you output the report.

After you adjust your report format you can use the Preview option to check the report format again. When you are satisfied with the report, select the Exit option.

The Exit Option

Like the Schema-design and Form-design Exit options, the Line-report Exit option offers two choices.

Select the Build-new-report option when you want *File-it!* to save all the entries or changes you have made to the line report format in this session. Select the Keep-old-report option when you want to discard all entries or changes to the format you have made in this session with Line-report.

3: Enter 1 after the double angle brackets at the top of the screen. Press RETURN.

→ *File-it!* moves 1 to its proper place in the Line-report table, automatically enters the default field width of 10 in the Width column and the default Separator value of 1-line in the Separator column, and displays the Line-report menu.

4: Use the ARROW keys to move the screen highlight down one line, to the **last_name** Order location. Select the Change option, and enter 2 after the double angle brackets. This time, do not press RETURN. Instead, use the down ARROW key to move the screen highlight down one line.

→ *File-it!* enters 2 in the Order column for **last_name**, 15 in the Width column, and 1-line in the Separator column.

5: In the same way, enter 3 for **address1**, 4 for **city**, 5 for **state**, and 6 for **zip**.

→ *File-it!* puts the numbers you enter in their proper places in the Order column as you move the screen highlight and automatically enters default widths (in the case of character fields, the widths specified in the schema) and a default Separator value of 1-line for each field. The screen looks like the one below. (The entries for the **zip** field will not appear on the screen until you move the highlight again.)

```
CHANGE ORDER >>6
Enter an order number for this field. RETURN sets it. DEL discards it.
             Field: zip                        Type: character
----- Page 1 of 1 ----- names ------------------ Press CONTROL-W for Help ----

Name                     Order  Width  Sort  Total  Subtotal  Separator

first_name                 1     10                            1-line
last_name                  2     15                            1-line
address1                   3     30                            1-line
address2
city                       4     25                            1-line
state                      5      2                            1-line
zip                     [        ]
phone
```

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```
SEPARATOR:     0-lines   1-line   2-lines   3-lines   4-lines   5-lines   Other
Writes three lines after this field.
                Field: zip                              Type: character
----- Page 1 of 1 ----- names ----------------- Press CONTROL-W for Help ----

Name                          Order   Width   Sort   Total   Subtotal   Separator

first_name                      1      10                                0-lines
last_name                       2      15     Sort                       1-line
address1                        3      30                                1-line
address2
city                            4      25                                0-lines
state                           5       2                                0-lines
zip                             6       5                                1-line
phone
```

10: Press RETURN since all Change entries are complete.

→ *File-it!* displays the Line-report menu, with 3-lines in the Separator column for **zip**.

11: Select the Title option and enter Friends. Press RETURN.

→ *File-it!* displays the Line-report menu.

12: Select the Preview option to view your report. Then select the Exit option. When *File-it!* displays the Exit menu, select the Build-new-report option.

Now "Friends" is the current report for the **names** file. Whenever you select the Report-design option for the **names** file, *File-it!* will display the Line-report menu with the "Friends" report format on the screen. You can use the menu options to modify the report, or you can keep it as it is.

To output the actual report, see the section on "Displaying and Printing a Report" in this chapter.

The resulting report will look like this:

```
                    Deductible and Non-deductible Checks

        101      08/06/83 Pacific Gas and Electric              $30.39
        102      08/07/83 County Water Supply                   $23.49
        103      08/07/83 Safeway                               $20.00
        104      08/10/83 Payless                               $39.28
        106      08/27/83 Safeway                               $20.00
        107      09/01/83 Safeway                               $47.52
                                                             ----------
                                                               $180.68


        105      08/25/83 Telephone Co.                    y     $52.45
        108      09/03/83 CSAA                              y     $73.93
                                                             ----------
                                                               $126.38

                                                             ==========
                                                               $307.06
```

▤ Example 6-3

1: If necessary, use the options in the Utility menu to select **chkbook** as the active file. Then select Report-design from the Top-level menu.

→ *File-it!* displays the following screen.

```
COLUMN-REPORT:    [Change]  Headings  Title  New-report  Screen  Preview  Exit
Adds or changes report characteristics for the active field.
              Field: checknum                 Type: integer
----- Page 1 of 1 ----- chkbook --------------- Press CONTROL-W for Help ----

Name                         Order  Width  Sort  Total  Subtotal

checknum                     [__1_]    6
ddate                          3       8
payee                          2      30    Sort
amount                         4      10           Total  Subtotal
notes
tax_ded
```

2: Use the ARROW keys to put the screen highlight on the first item in the Width column. Then select the Change option.

→ *File-it!* displays the Change Width screen, with the current width of **checknum** after the double angle brackets.

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3: Move the screen highlight to the word **Sort**.

→ *File-it!* displays the Change Sort menu.

4: Select the No option by using the SPACE bar to move the highlight over it. Then use the ARROW keys to move the screen highlight down to the Sort column of the **tax_ded** field. Use the SPACE bar to select the Yes option. Press RETURN.

→ *File-it!* erases "Sort" from the Sort column for the **payee** field, enters it in the Sort column for the **tax_ded** field, and displays the following screen.

```
COLUMN-REPORT:    [Change]  Headings  Title  New-report  Screen  Preview  Exit
Adds or changes  report characteristics for the active field.
                    Field: tax_ded                    Type: character
----- Page 1 of 1 ----- chkbook --------------- Press CONTROL-W for Help ----

Name                        Order  Width  Sort  Total  Subtotal

checknum                       1     10
ddate                          2     10
payee                          3     25
amount                         5     10                Total  Subtotal
notes
tax_ded                        4      1   [Sort]
```

5: Select the Title option and enter **Deductible and Non-deductible Checks** over the old title. (If the new title is shorter than the old title, enter SPACES over extra characters.) Press RETURN.

→ *File-it!* displays the Column-report menu.

6: Select the Preview option to inspect the report. If you are satisfied with the new format, select the Exit option from the Column-report menu, and then the Build-new-report option from the Exit menu.

If you do not want to keep the new report format, select the Keep-old-report option from the Exit menu. The next time you select Report-design for this file, *File-it!* will display the format for the last report you built.

```
REPORT OUTPUT FILE LIST:    Current-list  Entire-file
Writes the Current List to screen, file, or printer in report format.

----- Page 1 of 1 ----- chkbook --------------- Press CONTROL-W for Help ----
```

Choose the Current-list option if you want to
output a selected part of your database. For
example, if you want only August 1983 checks in
your "Deductible and Non-deductible Checks"
report, use the Query option to select for the range
08/01/83:08/31/83 in the **ddate** field *before* selecting
the Output option. Then select the Output option.
When *File-it!* displays the Report Output File List
menu, select the Current-list option. *File-it!* will
output only those records in the Current List.

Choose the Entire-file option if you want to output
all the records in your database.

Sending the Report to the Screen, a File, or the Printer

Whichever option you choose (Current-list or
Entire-file), *File-it!* displays the following menu
next.

```
REPORT OUTPUT TO:    Screen  File  Printer
Displays the selected records on the screen in report format.

----- Page 1 of 1 ----- chkbook --------------- Press CONTROL-W for Help ----
```

Choose the Screen option if you want to see your
report on the screen. This report may contain
different data than you saw when you selected the
Preview option from the Column-report or Line-
report menu in Report-design.

Choose the File option if you want to send your
report to an operating system file for storage or
later printing. Choose the Printer option if you
want to send your report directly to the printer.

If you select the Screen option, *File-it!* displays
Running report... briefly on the bottom of the screen.

Chapter 7

Using the Utility Menu

The Utility menu (shown below) has five options: Database, File, Load, Unload, and Exit.

```
UTILITY:    [Database]  File   Load   Unload   Exit
Chooses a different database to work with.

--------------------------- chkbook ---- -------------- Press CONTROL-W for Help ----
```

The Database option allows you to choose an existing database or create a new one. Chapters 1 and 2 introduced the Database screen and discussed how to select or create a database after calling up *File-it!* from the operating system.

The File option is similar to the Database option. Each database has one or more files. The File option allows you to choose an existing file in an existing database or create a new file for an existing database.

The Load option copies data from an operating system file to a *File-it!* database file. The Unload option copies data from a *File-it!* database file to an operating system file. (All *File-it!* files are compatible with full **INFORMIX** files—you don't need to copy files from *File-it!* to **INFORMIX** or vice versa. Refer to Appendix D for details.)

The Exit option returns to the Top-level menu.

Selecting and Creating Databases

Example 1-2 explained how to choose an existing database and Example 2-1 explained how to create a new database after calling up *File-it!*. This section shows how to work with several different databases without leaving *File-it!*.

To start using a database other than the one you are working with, choose the Utility option from the Top-level menu. Then select Database. *File-it!*

INFORMIX, and you keep related files in one
database, you can use the join and master-detail
features of INFORMIX to view records from more
than one file while you are using INFORMIX. If
you are using *File-it!* alone, the File option can
help you organize your data. You may want to
have a different file for each year in your **chkbook**
database, for example. Or you may want to divide
your **names** database into several files.

The following example shows how to create a new
file for an existing database.

▓ Example 7-1

This procedure creates a new file called **chkbook2**
for the **chkbook** database.

1: Select the Utility option from the Top-level
    menu. Then select the Database option and
    enter chkbook as the name of the database.

→ *File-it!* displays the Utility menu with the name
    of the active file, **chkbook**, on the fourth line of
    the screen.

2: Select the File option.

→ *File-it!* displays the following screen.

```
FILE :>-[]
Choose file with ARROW keys or enter new filename.  Press RETURN.

--------------------- chkbook --------------- Press CONTROL-W for Help ----

The following files in the database are available:

[chkbook          ]
```

2: Enter the name of the new file (**chkbook2**) after
    the angle brackets. Press RETURN.

→ *File-it!* displays the Utility menu, with the
    name of the new file (**chkbook2**) replacing the
    name of the old file on the fourth line of the
    screen.

Copying Data from One File-it! File to Another

To move data from one *File-it!* database file to another, first unload the data from the source *File-it!* database file to an operating system file and then load from the operating system file to the receiving *File-it!* database file.

The two *File-it!* database files must have the same schemas (same number and kind of fields). If the database file you unload contains serial or no-duplicate index data, make sure the receiving *File-it!* database file contains no data. This way, there will be no conflict between the unique serial or no-duplicate index data you are copying from the source file and existing data in the receiving file.

Under certain conditions you can use the Load and Unload options to "compress" your files. For example, if you use the Remove option in Data to delete records from your **chkbook** file, *File-it!* removes the records but keeps their storage slots in the file to receive more records as you add them. If you are not planning to add many records, you can use the Unload and Load options to compress the data in the **chkbook** file.

The following example shows how to unload the data in the **chkbook** database file to an operating system file called **outfile** and then load the data in **outfile** to the database file you created in Example 7-1, **chkbook2**. **chkbook2** must have the same schema as **chkbook**. The schema specifications for **chkbook** are given in Chapter 2.

4: Select the File option. Then select **chkbook2** as your new file.

→ *File-it!* displays the Utility menu with **chkbook2** on the fourth line of the screen.

5: Select the Load option.

→ *File-it!* displays the following screen.

```
LOAD:    [Character]  Binary
Reads from a file containing all letters and digits.

---------------------- chkbook2 -------------- Press CONTROL-W for Help ----
```

6: Select the Binary option since you unloaded to **outfile** using the Binary option.

→ *File-it!* displays the screen shown below.

```
LOAD FILENAME  ··▯
Enter the name of the copy file and then press RETURN.

---------------------- chkbook2 -------------- Press CONTROL-W for Help ----
```

7: Enter **outfile** after the double angle brackets at the top of the screen. Press RETURN.

→ *File-it!* displays Loading record x at the bottom of the screen as it loads and y records loaded when it is finished. After pausing briefly, it displays the Utility menu. Now **chkbook2** contains the same data as **chkbook**.

Recovering File-it! Data

The data for a *File-it!* database file is stored in an operating system file with the the extension **.dat**. The data from the **names** database, for example, is stored in the **names.dat** file.

If you have the data file for **names** but you do not have the other files associated with the database (**names.dbd**, **names.frm**, and **names.idx**), you can create a new database file, such as **handles**, and use the Load option of the Utility menu to copy

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database file that will receive the data has the same specifications as the schema for the data you are loading. After you build a schema, build a form.

Next use the Load option of the Utility menu to copy the data from an operating system file (say **loadin**) to a *File-it!* database file (say **chkbook**). Select the Character option from the Load menu. *File-it!* displays the following screen.

```
LOAD FIELD DELIMITER  - ⬚
Enter one character and then press RETURN.

------------------------ chkbook ---------------- Press CONTROL-W for Help ----
```

The field delimiter is the character used to mark the boundaries of fields in the foreign file. It may be any character. The character you enter as the field delimiter must be identical to the character used as field delimiter in the foreign file. For example, suppose **loadin** has records that look like the following:

110,9/15/83,Safeway,20.00,cash,n,
111,9/22/83,Bill Smith,8.35,books,y,

Because a comma appears after each field, you know that **loadin** uses a comma as the field delimiter. In response to the Load Field Delimiter screen, enter a comma. (If the field delimiter you enter is different from the field delimiter in the copy file, *File-it!* displays Cannot read file "loadin"--bad data format in record 1 and does not load the file.)

After you enter the field delimiter character, press RETURN. When *File-it!* displays the Load Filename screen, enter the name of the file you are copying data from (loadin). *File-it!* loads the data file into your database file, displays x records loaded, pauses briefly, and returns to the Utility menu.

Appendix A

Types of Fields

This appendix formally defines all the types of fields (data types) available in *File-it!*. Some of the types covered here were introduced in Chapter 2. Queries based on any of these types follow the format introduced in Chapter 4.

Type Character

Character fields can contain any string of characters. When you define your database in Schema-design, you must specify the length of a character field—anywhere from 1 to 986 characters. However, if a character field is an index field, the field length cannot exceed 120. A character field occupies one byte in each record for each character in its length. The default display field length in Form-design and Data is equal to the length specified in Schema-design.

Type Integer

An integer field can only contain whole numbers in the range of $-32,768$ to $+32,767$ inclusive. You do not need to specify the length of an integer field when you define your database in Schema-design; it has a fixed length of two bytes. The default display field length in Form-design and Data is six.

Type Long

A long field can only contain whole numbers in the range of $-2,147,483,648$ to $+2,147,483,647$ inclusive. A long field has a fixed length of four bytes. The default display field length in Form-design and Data is eleven.

Type Date

There are three types of date fields: date, edate, and ydate.

Type	How the date is displayed
date	mm/dd/yy
edate	dd/mm/yy (European)
ydate	yy/mm/dd (Year first)

where:

mm = month (1-12)
dd = day of the month (1-31)
yy = year (00-99)

You can enter dates using slashes, periods, or SPACEs to separate the three fields (3/13/18 or 3.13.18 or 3 13 18). When you enter data into a date field, *File-it!* checks to see that you enter a valid date (in addition to checking for illegal characters, it checks to see that you do not put too many days in a month or months in a year). A date field has a fixed length of four bytes. The default display field length in Form-design and Data is eight.

Appendix B

Reserved Words

The following list includes all of the *File-it!* *reserved words*. These words have special meanings to *File-it!* —you cannot use them as field, file, or database names.

A access add after alias all allow allowing and ascending ass assign att attribute attributes audit average avg

B before begin blanks bottom by bye

C call char character clipped comments comp composite count

D database date db default define delete descending do dominant double downshift duplicates dups

E edate else end erase every ex execute

F field file find first float for format from function

G group

H header headings help

I if include index input insert instructions int integer intersect into

J join joining

L last left len length let line lineno lines load location lock long lookup

M margin master matches max min minus money

N next noentry none noprompt not noupdate

O of on optional or output

P page pageno param pause percent perm permission permissions pipe previous primary print printer prompt public

Appendix C

Summary of Commands

HELP: You can obtain assistance any time you are using *File-it!* by pressing CONTROL-W. (Hold down the CONTROL key and press W. Then release both keys.)
SCREEN: Displays the next page of the Help text.
RESUME: Returns you to what you were doing before you called Help.

DATABASE: (This screen is the first you use when you call *File-it!*) Selects an existing database or enters a new database name. RE-TURN enters the database name; DEL displays the Top-level menu. If the database is new or has only one file, *File-it!* displays the Top-level menu after you press RETURN. If the database has more than one file, *File-it!* displays the File menu after you press RE-TURN. See the Utility menu for more information on Database and File.

BYE: Ends this session with *File-it!* and returns to the operating system.

TOP-LEVEL: Chooses any path through the tree of menus (Data, Schema-design, Form-design, Report-design, Utility, and Bye).

DATA: Queries (asks questions of) the database; adds, updates, re-moves, or outputs data.

QUERY: Retrieves information from the database. Enter the values you are searching for in the appropriate field(s). ARROW keys move the cursor. ESCAPE executes the search. DEL dis-cards the search and returns to the Data menu.

NEXT: Displays the next record in the Current List (the list of records that satisfied the last query).

PREVIOUS: Displays the previous record in the Current List.

ADD: Adds a record to the database. Enter the appropriate values in the form on the screen. RETURN and ARROW keys move the cursor. ESCAPE adds data; DEL discards the addition and returns to the Data menu.

UPDATE: Changes all or part of the displayed record. ESCAPE enters change; DEL discards change and returns to the Data menu.

REMOVE: Offers the choice of removing or not removing the displayed record from the database.
YES: Removes the displayed record from the database.
NO: Does not remove the displayed record from the database.

SCREEN: Shows the next page of the form; cycles back to the first page after displaying the last page.

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SCHEMA-DESIGN: Defines a new database; changes the definition of an existing database; removes a field from or adds a field to an existing database.

ADD: Inserts data field descriptions above the line with the highlight. Use it to build a new database and to add a field to an existing one.

ADD NAME: Enters the data field name. RETURN enters the name. DEL discards it and returns to the Schema-design menu.

ADD TYPE: Chooses a data type for the data field. Some options ask you additional questions that pertain to the type of data (see below). All options ask if you want the field to be an index field except Serial (which automatically provides an index and prohibits duplicates). Select "Yes" if you want the field to be an index, "No" if you do not want it to be an index. All Index Yes options ask if you want to allow duplicates. Select Yes to allow duplicates, No to prohibit them.

CHARACTER: Stores any combination of letters, numbers, and punctuation.
   ADD LENGTH: Specifies the number of characters that will appear in the longest entry in the field. RETURN enters the length; DEL goes back one step.
   ADD INDEX: Asks if you want this field to be an index field.
      YES: Makes this field an index.
         ADD DUPLICATES: Asks if you want to allow duplicate values in this field.
         YES: Allows duplicates.
         NO: Does not allow duplicates.
      NO: Does not make this field an index.

INTEGER: Stores whole numbers in the range $-32,768$ to $+32,767$.
   ADD INDEX: Asks if you want this field to be an index field.
      YES: Makes this field an index.
         ADD DUPLICATES: Asks if you want to allow duplicate values in this field.
         YES: Allows duplicates.
         NO: Does not allow duplicates.
      NO: Does not make this field an index.

DATE: Stores dates in the form mm/dd/yy.
  ADD INDEX: Asks if you want this field to be an index field.
    YES: Makes this field an index.
      ADD DUPLICATES: Asks if you want to allow duplicate values in this field.
      YES: Allows duplicates.
      NO: Does not allow duplicates.
    NO: Does not make this field an index.

EDATE: Stores dates in the form dd/mm/yy.
  ADD INDEX: Asks if you want this field to be an index field.
    YES: Makes this field an index.
      ADD DUPLICATES: Asks if you want to allow duplicate values in this field.
      YES: Allows duplicates.
      NO: Does not allow duplicates.
    NO: Does not make this field an index.

YDATE: Stores dates in the form yy/mm/dd.
  ADD INDEX: Asks if you want this field to be an index field.
    YES: Makes this field an index.
      ADD DUPLICATES: Asks if you want to allow duplicate values in this field.
      YES: Allows duplicates.
      NO: Does not allow duplicates.
    NO: Does not make this field an index.

MONEY: Stores dollars and cents.
  ADD INDEX: Asks if you want this field to be an index field.
    YES: Makes this field an index.
      ADD DUPLICATES: Asks if you want to allow duplicate values in this field.
      YES: Allows duplicates.
      NO: Does not allow duplicates.
    NO: Does not make this field an index.

SERIAL: Stores sequential numbers starting at the number you specify. *File-it!* automatically increments this number each time you add a record to the database.
   CHANGE STARTING NUMBER: Specifies the starting number for the serial number. Index is automatically provided; duplicates are not permitted. RETURN enters the starting number and displays the Schema-design menu; DEL returns to the Schema-design menu.

DATE: Stores dates in the form mm/dd/yy.

EDATE: Stores dates in the form dd/mm/yy.

YDATE: Stores dates in the form yy/mm/dd.

MONEY: Stores dollars and cents.

CHANGE INDEX: Asks if you want this field to be an index field.
   YES: Makes this field an index.
      CHANGE DUPLICATES: Asks if you want to allow duplicate values in this field.
      YES: Allows duplicates.
      NO: Does not allow duplicates.
   NO: Does not make this field an index.

REMOVE: Offers the choice of deleting or not deleting an entire field (the whole line containing the highlighted value).
   YES: Deletes the highlighted field from the schema.
   NO: Does not delete the highlighted field.

SCREEN: Shows the next page of the form; cycles back to the first page after displaying the last page.

EXIT: Leaves the Schema-design menu.
   BUILD-NEW-SCHEMA: Incorporates the additions and changes you have just made. Displays the Form-design menu.
   KEEP-OLD-SCHEMA: Discards changes made to the schema in this session before returning you to the Top-level menu.

OPTIONS: Chooses from a list of options. Y selects option, N ignores option. ESCAPE enters the option list; DEL discards the option list and returns to the Form-design menu.

> **VERIFY:** Requires you to enter data twice. Entries must match exactly to proceed.
> **REQUIRED:** Requires you to enter data in this field.
> **NOUPDATE:** Does not allow the already entered value in this field to be changed with the Data Update option.
> **NOENTRY:** Does not allow anything to be entered into this field. (Existing entries may be changed during Update.)
> **REVERSE:** Displays this field in reverse video.
> **RIGHT JUSTIFY:** Automatically right justifies an entry in this field.
> **ZERO FILL:** Pads the field with zeros instead of SPACES.
> **UPSHIFT:** Automatically makes an entry in this field uppercase.
> **DOWNSHIFT:** Automatically makes an entry in this field lowercase.
> **AUTONEXT:** Automatically moves the cursor to the next field when this field is full.

REMOVE: Deletes a non-data line or page from the form. DEL returns to the Form-design menu.
LINE: Deletes the non-data line the cursor is on.
PAGE: Deletes the non-data page displayed on the screen.

MOVE: Repositions a field, line, or word on the screen. ARROW keys move cursor. RETURN sets the change; DEL discards it and returns to the Form-design menu.
MOVE FIELD: Moves the active data field to a new location.
MOVE LINE: Moves the active line to a new location.
MOVE WORD: Moves the active word to a new location.

SCREEN: Shows the next page of the form; cycles back to the first page after displaying the last page.

EXIT: Leaves the Form-design menu.
BUILD-NEW-FORM: Incorporates the additions and changes you have just made. Returns you to the Top-level menu.
KEEP-OLD-FORM: Discards changes made to the form in this session before returning you to the Top-level menu.

EXIT: Leaves Column-report and returns to the Top-level menu.

    BUILD-NEW-REPORT: Incorporates the additions and changes you have just made to the column report format and makes this report the current report for this file.

    KEEP-OLD-REPORT: Discards changes made to the column report format in this session. Retains former report as the current report for this database file.

LINE-REPORT: Displays the existing line report or designs a new one.

    CHANGE: Changes the highlighted existing report specifications or enters new ones. Use the ARROW keys to move the highlight to the appropriate column for the field you want to change. RETURN adds or changes entries; DEL returns to the Line-report menu.

    ORDER: Enters or changes order numbers for report fields. RETURN enters the number; DEL returns to the Line-report menu.

    WIDTH: Changes widths for report fields. RETURN enters the number; DEL returns to the Line-report menu.

    SORT: Enters or changes the sort field for this report.

      YES: Makes this field the sort field.

      NO: Removes sort from this field.

    TOTAL: Calculates or does not calculate a total for this numeric field (not suitable for character, date, edate, ydate, or serial fields).

      YES: Calculates a total for this field.

      NO: Does not calculate a total for this field.

    SUBTOTAL: Calculates or does not calculate a subtotal for this numeric field (not suitable for character, date, edate, ydate, or serial fields) each time the sort field changes.

      YES: Calculates a subtotal for this field each time the sort field changes.

      NO: Does not calculate a subtotal for this field.

    SEPARATOR: Enters field separators.

      0-LINES: Begins the next field on the same line.

      1-LINE: Begins the next field on the next line.

      2-LINES: Begins the next field after skipping one line.

      3-LINES: Begins the next field after skipping two lines.

      4-LINES: Begins the next field after skipping three lines.

      5-LINES: Begins the next field after skipping four lines.

      OTHER: Selects a string separator.

        OTHER SEPARATOR: Separates this field from the next with a string of up to 10 characters. Both fields are on the same line. Removes all horizontal spaces between fields for this report. RETURN enters string; DEL returns to the Separator menu.

    TITLE: Enters or changes the title of this report. RETURN enters the title; DEL returns to the Line-report menu.

UTILITY: Chooses a database and a file; loads and unloads data.

DATABASE: Selects an existing database name or enters the name of a new database. RETURN enters the name; DEL returns you to the Utility menu. If you choose a database with only one file or name a new one, you return to the Utility menu. If you choose a database with more than one file, you proceed to the File screen.

FILE: Chooses an existing file or names a new file. RETURN enters the filename; DEL returns you to the Utility menu.

LOAD: Copies data from a file into the database file. DEL returns you to the Utility menu.

CHARACTER: Reads from a file containing ASCII data.
  LOAD FIELD DELIMITER: Enters one character (| is suggested) to delimit character fields. RETURN enters delimiter; DEL goes back one step.
  LOAD FILENAME: Enters the name of the file you want to copy. RETURN enters the filename; DEL goes back one step.

BINARY: Reads from a file containing binary data.
  LOAD FILENAME: Enters the name of the file you want to copy. RETURN enters the filename; DEL goes back one step.

UNLOAD: Copies data from this database file into another file.

CHARACTER: Copies ASCII data to a file.
  UNLOAD FIELD DELIMITER: Enters one character (| is suggested) to delimit character fields. RETURN enters delimiter; DEL goes back one step.
  UNLOAD FILENAME: Enters the name of the file you want to copy to. RETURN enters the filename; DEL goes back one step.

BINARY: Copies to a file containing binary data.
  UNLOAD FILENAME: Enters the name of the file you want to copy to. RETURN enters the filename; DEL goes back one step.

EXIT: Returns you to the Top-level menu.

Appendix D

File-it! and INFORMIX

You can immediately use all database files created by *File-it!* with INFORMIX versions 3.20 and higher. INFORMIX uses the same schema, form, and data that *File-it!* uses. No adjustments or modifications are necessary.

With the exception of database files containing composite fields or character fields longer than 986 characters, you can use all database files created by INFORMIX with *File-it!*. *File-it!* uses the same schema and data that INFORMIX uses. Because *File-it!* does not use the INFORMIX form, you have to use the Form-design option in *File-it!* to build a *File-it!* form. Then you can use files from INFORMIX with the form from *File-it!*. The form you create in *File-it!* can be identical to the one you created for INFORMIX, or it can be different.

You can use INFORMIX database files containing features specific to INFORMIX with *File-it!*. However, if you use an INFORMIX file containing features found only in INFORMIX, you cannot modify the schema while working with *File-it!*.

The table on the following page summarizes the interaction between database files created in INFORMIX and *File-it!*.

Appendix E

File-it! Filenames

A *File-it!* database file is made up of the following operating system files:

filename.dat   data file
filename.dbd   database dictionary file
filename.frm   form file
filename.idx   index file

File-it! automatically creates the four files when you define and build a schema and form for a new database file.

filename.dat stores the data you enter in the database file. **filename.dbd** stores the database schema specifications. **filename.frm** stores the database form specifications. **filename.idx** stores the database index information. *File-it!* creates the index file whether or not you have indexes in your database file.

In addition, *File-it!* may have the following two files:

filename.out   output file
filename.pir   report format file

filename.out stores the records you select for output in either form or report format when you accept the default output filename. If you assign a name of your own to the output file, you will not have a **filename.out** file. **filename.pir** stores the report format specifications.

Appendix F

Specifying a Terminal on a UNIX System

Because *File-it!* takes advantage of features that are specific to various kinds of terminals, on a UNIX-based system you will need to know the *Termcap* name of your terminal (the name that tells *File-it!* what kind of terminal you have). This appendix tells you how to establish this information in a startup file that automatically executes the appropriate commands each time you log on. It also explains how you can manually give the commands each time you log on.

The operating system file named **termcap** contains a list of terminals and descriptions of how each one operates. Each entry in this file has a name; one of these names is the name of the Termcap entry for your terminal. If you are not sure what your Termcap name is, ask your system administrator or someone familiar with your installation. Then follow the instructions below to communicate the Termcap name to *File-it!*.

If you are using the Bourne Shell, give the following commands to tell the operating system the type of terminal you are using before you call up *File-it!*. You can also place these commands in the **.profile** file in your home directory so that they will execute automatically each time you log on. Replace "name" with the name of the Termcap name for your terminal.

        $ TERM=name
        $ export TERM
        $

If you are using the C Shell, give the following commands to tell the operating system the type of terminal you are using. You can also place these commands in the **.login** file in your home directory for automatic execution each time you log on. Replace "name" with the Termcap name for your terminal.

        % setenv TERM name
        %

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