Digital Computer Laboratory
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SUBJECT: THE CS2 INSTRUCTION, STOP

To: Those listed

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ABSTRACT: A new instruction, STOP, has been added to the CS2 vocabulary.
             This instruction will provide a uniform method for terminating
             programs.

General Description

The instruction, STOP, is converted by the CS2 conversion program to the WWI instruction, sp 25 (decimal). Execution of this instruction transfers control to a special entry point in the test storage input program.

The function of the STOP instruction depends on the following factors.

1) Whether or not the instruction is interpreted.

2) Whether or not a director tape is being used.

In considering the various cases we assume that the stop instruction being executed is stored in register y of MCM.

Case 1:   Non-interpreted, no director tape

The utility control program stores the WWI instruction, sp y+1, in test storage register 2. MCM is then restored to its previous contents and computer control is transferred to test storage register 1.

Thus a normal (y+1) stop occurs if the stop on si 1 switch is on. In this case pressing the restart button transfers computer control to the register following the STOP instruction.

Case 2:   Interpreted, no director tape

The utility control program stores the WWI instruction, sp 3742 (octal), in test storage register 2. MCM is then restored to its previous contents and computer control is transferred to test storage register 1.

Thus a normal (3742) computer stop occurs if the stop on si 1 switch is on. In this case, pressing the restart button transfers computer control to a register in the programmed arithmetic subroutine which then interprets the instruction in register y+1.

Case 3: Non-interpreted, director tape used[1]

The utility control program stores the WWI instruction , sp y+1, in test storage register 2. Computer control is then transferred to the director tape program which reads in the next word from the director tape and acts accordingly.

Case 4: Interpreted, director tape used[1]

The utility control program stores the WWI instruction, sp 3742 (octal), in test storage register 2. Computer control is then transferred to the director tape program which reads in the next word from the director tape and acts accordingly.

The Instruction i STOP

The instruction, i STOP, is also converted by the CS2 conversion program to the WWI instruction, sp25, and can be used, for symmetry, in interpreted programs.

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1) Director tapes are described in DCL-24.

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