The first program, controlled by **A**, simply clears the registers. The second program, controlled by **B**, accumulates each number in R_1 and displays a running total. [DSZ] is used to count the number of repetitions in the group. Each time [DSZ] is encountered, 1 is subtracted from the value in R_8. Since that value starts at zero, the condition will always be met and the two steps will never be skipped. The third program, controlled by **C**, takes the average of the numbers by dividing the total by the number of repetitions. Since the value in R_8 is negative, its sign is changed before computing the average.

Now switch back to RUN mode and try the following example.

Example. Find the total and average of the following group of numbers:

65   78   908   345   23   98

| Press	See Displayed	
A	0.00	Initialize program.
65 **B**	65.00	Running total.
78 **B**	143.00	Running total.
908 **B**	1051.00	Running total.
345 **B**	1396.00	Running total.
23 **B**	1419.00	Running total.
98 **B**	1517.00	Final total.
C	252.83	Average.

Flags

Your HP-65 also contains two flags which act as invisible switches. You can set each flag ON or OFF. You can also test each flag to see if it is ON (*flying*), or test it to see if it is OFF (*lowered*). The keystrokes to set and test these flags are listed below.

Keys		Result	
f	SF 1	Set flag one flying.	
f⁻¹	SF 1	Lower flag one.	
f	TF 1	Test flag one. Is it flying?	
f⁻¹	TF 1	Test flag one. Is it lowered?	
f	SF 2	Set flag two flying.	
f⁻¹	SF 2	Lower flag two.	
f	TF 2	Test flag two. Is it flying?	
f⁻¹	TF 2	Test flag two. Is it lowered?	

These two pairs of instructions can be executed from the keyboard or from a program.

For each test made, if the answer is *YES*, program execution continues sequentially. And if the answer if *NO*, the program pointer skips two steps of memory before continuing.

Is flag 1 flying?
YES (☒₁) then GTO 6 skip two steps.
NO (1̄☒) then divide
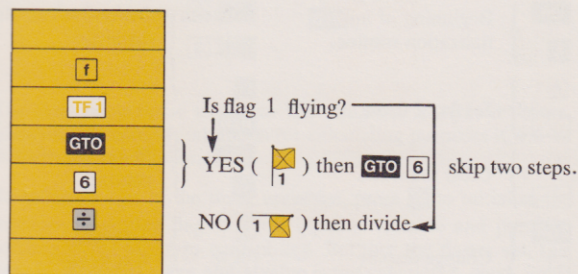
Note that a flag retains its setting until an instruction to change it is executed.

Writing a Program Using Flags. The relationships between speed, time, and distance for a moving body are given by the following formulas: