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Assignment 5

Question 1

Objective

Using auto vectored input RST 7.5 prepare a scheme to count the number of key-press done at this interrupting input.

The main routine after initialisation of the interrupt mechanism waits in an infinite loop waiting for the key-press. On a key-press (that simulates as if you have excited the RST 7.5 input) it increases a counter at a predefined memory location (used to hold the count value). You may exit from this routine and then check the counter value

Tool / Experimental setup considered

• Used Jubin's 8085 Simulator.

Procedure

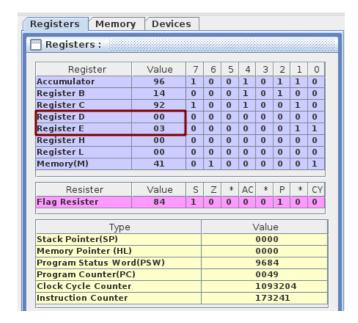
We will use an RST 7.5 interrupt line to call a procedure every time we get an interrupt.

To prevent multiple interrupts being registered at the same time, we are using a small delay.

Program

```
# ORG 0000H
   MVI A, OB // To enable R7.5
   SIM // Set Interrupt Mask
   EI // Enables Interrupt
LOOP:
   MVI A,01
   JNZ LOOP
# ORG 3C
   DI
    INX D
    CALL DEL80 // Adding some delay
    RET
          LXI B,28AF
DEL80:
DEL80L00P:
   DCX B
    MOV A, B
    ORA C
    JNZ DEL80L00P
    RET
```

Experimentation



Conclusion

After pressing the interrupt 3 times, we can see that the D-C register has the value 3. After trying it out for multiple interrupts we are getting accurate results. Hence, our program is working.