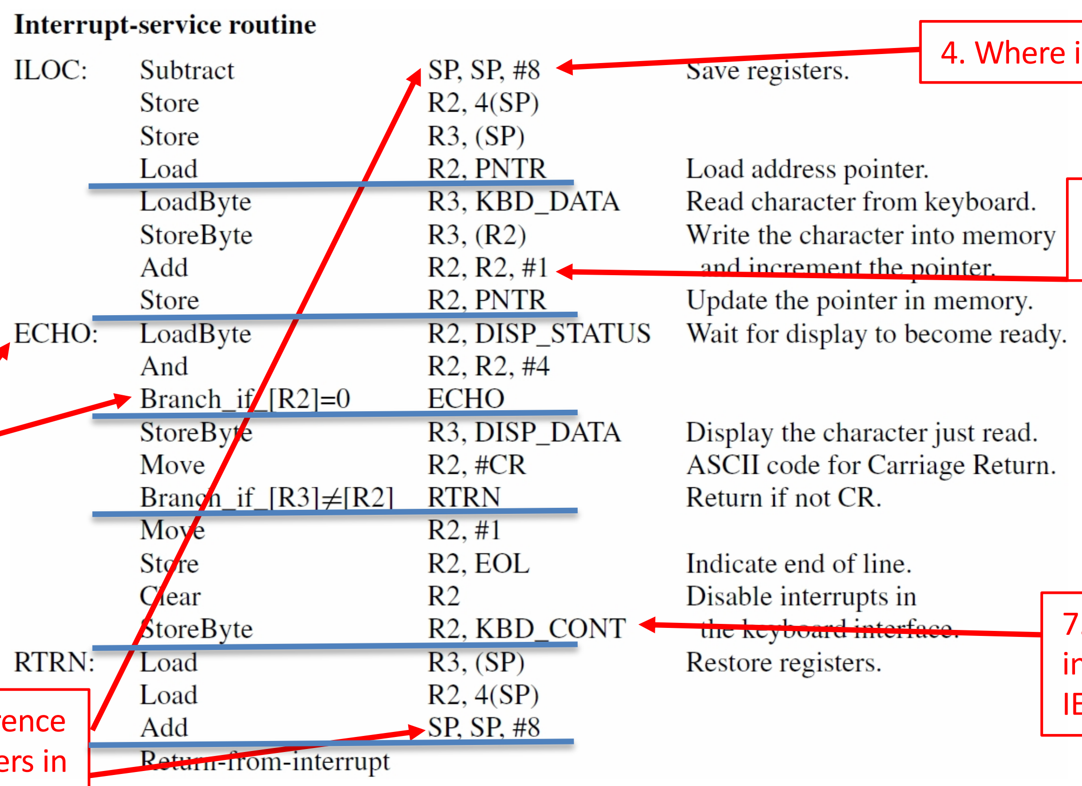
Fig. 3.8 ISR (Assignment)



Interrupt-service routine

```
ILOC:   Subtract            SP, SP, #8        Save registers.
        Store               R2, 4(SP)
        Store               R3, (SP)
        Load                R2, PNTR          Load address pointer.
        LoadByte            R3, KBD_DATA      Read character from keyboard.
        StoreByte           R3, (R2)          Write the character into memory
        Add                 R2, R2, #1          and increment the pointer.
        Store               R2, PNTR          Update the pointer in memory.
ECHO:   LoadByte            R2, DISP_STATUS   Wait for display to become ready.
        And                 R2, R2, #4
        Branch_if_[R2]=0    ECHO
        StoreByte           R3, DISP_DATA     Display the character just read.
        Move                R2, #CR           ASCII code for Carriage Return.
        Branch_if_[R3]≠[R2] RTRN              Return if not CR.
        Move                R2, #1
        Store               R2, EOL           Indicate end of line.
        Clear               R2                Disable interrupts in
        StoreByte           R2, KBD_CONT        the keyboard interface.
RTRN:   Load                R3, (SP)          Restore registers.
        Load                R2, 4(SP)
        Add                 SP, SP, #8
        Return-from-interrupt
```

4. Where is the Frame Pointer?

5. Why the PTR is incremented by only one address location?

6. Why do we wait-loop to echo, while there is no wait in getting the Keyboard input?

7. Why DI at keyboard interface, and not in PS or IENABLE registers?

8. Comment on the difference in saving/restoring registers in ISR vs Call Subroutine?