

## Experiment 6

Name: Pra0k Chavan

Div/Batch: A/A1      Roll No.07

*.MODEL SMALL*

*.STACK 100H*

*.DATA*

*MSG DB 'Flag Register: \$' ; Message to display*

*HEX\_CHARS DB '0123456789ABCDEF' ; Lookup table for hex digits*

*FLAGS DW ? ; Variable to store flag register value*

*.CODE*

*MAIN PROC*

*MOV AX, DGROUP*

*MOV DS, AX*

*PUSHF ; Push flag register onto the stack*

*POP FLAGS ; Pop flag register into FLAGS variable*

*MOV DX, OFFSET MSG*

*MOV AH, 09H*

*INT 21H ; Print "Flag Register: "*

*MOV AX, FLAGS ; Load flag register value into AX*

*CALL PRINT\_HEX ; Print the flag register in hexadecimal format*

*MOV AH, 4CH*

```

    INT 21H    ; Exit program

MAIN ENDP

; -----
; Print 16-bit Hex Procedure
; -----

PRINT_HEX PROC

    MOV CX, 4    ; We have 4 hex digits (16-bit / 4-bit each)

    MOV BX, 12    ; Bit shift amount (12, 8, 4, 0)

HEX_LOOP:

    MOV DX, AX    ; Copy AX value

    MOV CL, BL    ; Move shift count into CL (Fix for SHR error)

    SHR DX, CL    ; Shift right to isolate one hex digit

    AND DX, 0FH    ; Mask the lower 4 bits

    MOV SI, DX    ; Move index to SI

    MOV DL, [HEX_CHARS + SI] ; Convert to ASCII hex character

    MOV AH, 02H

    INT 21H    ; Print the hex digit

    SUB BX, 4    ; Move to the next hex digit

    LOOP HEX_LOOP ; Repeat until all digits are printed

    RET

PRINT_HEX ENDP

END MAIN

```

*OUTPUT:*