

# Computer Organization And Assembly Language

```
00000000: 01001101 01011010 10010000 00000000 00000011 00000000 MZ....
00000006: 00000000 00000000 00000100 00000000 00000000 00000000 .....
0000000c: 11111111 11111111 00000000 00000000 10111000 00000000 .....
00000012: 00000000 00000000 00000000 00000000 00000000 00000000 .....
00000018: 01000000 00000000 00000000 00000000 00000000 00000000 @.....
0000001e: 00000000 00000000 00000000 00000000 00000000 00000000 .....
00000024: 00000000 00000000 00000000 00000000 00000000 00000000 .....
0000002a: 00000000 00000000 00000000 00000000 00000000 00000000 .....
00000030: 00000000 00000000 00000000 00000000 00000000 00000000 .....
00000036: 00000000 00000000 00000000 00000000 00000000 00000000 .....
0000003c: 10000000 00000000 00000000 00000000 00001110 00011111 .....
00000042: 10111010 00001110 00000000 10110100 00001001 11001101 .....
00000048: 00100001 10111000 00000001 01001100 11001101 00100001 !..L.!
0000004e: 01010100 01101000 01101001 01110011 00100000 01110000 This p
00000054: 01110010 01101111 01100111 01110010 01100001 01101101 rogram
0000005a: 00100000 01100011 01100001 01101110 01101110 01101111 canno
00000060: 01110100 00100000 01100010 01100101 00100000 01110010 t be r
00000066: 01110101 01101110 00100000 01101001 01101110 00100000 un in
0000006c: 01000100 01001111 01010011 00100000 01101101 01101111 DOS mo
00000072: 01100100 01100101 00101110 00001101 00001101 00001010 de....
00000078: 00100100 00000000 00000000 00000000 00000000 00000000 $. ....
0000007e: 00000000 00000000 01010000 01000101 00000000 00000000 ..PE..
```

## Lab Manual 03

### Objectives:

1. Revision of different commands of debugger
2. Understanding of flags and their usage in conditional and iterative coding
3. Taking character input and Giving character and string output.

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Task 1:

Run the following codes on debugger and write down the status of flags:

```
i)
Mov ax,FF12
Mov bx,0012
Add ax,bx
ii)
Mov al,0001
Dec al
iii)
Mov al,ff
Inc al
iv)
Mov ax,40
Mov bx,50
Sub ax,bx
```

Task 2:

Take a character input from user and display it.

Task 3:

Take a character input and tell whether it is capital or small.

→ Display “Capital” for capital letters and “Small” for small letter.

Task 4:

Take two single digit numbers input and add them. Display correct output if the sum is less than 10, otherwise print “Overflow”.

Task 5:

Take a single digit number input from the user, and add it to each Byte of an 8-byte array located in memory whose segment address is stored in DS register and offset is 0508 (I.e 0508 to 050F)

**Note: You are required to the the above tasks for valid inputs and not required to handle invalid inputs.**

Task 6:

Describe functionality and working of following:

- DS Register
- CS Register
- IP Register
- SS Register
- Sign Flag
- Carry Flag

- Overflow Flag
- CMP instruction

**Note: Task 6 have to be done on paper.**

