Computer Organization
And
Assembly Language

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.