# Lab 10 & 11 – Using Basic Instructions: A Programming Exercise II

## Objectives

In this lab, students are assigned a programming exercise related to what they have learned in previous labs. Also, viva will be conducted from each student.

## Lab Tasks

**Task 1:** Write a program to (a) display a “?”, (b) read two decimal digits whose sum is less than 10, (c) display them and their sum on the next line, with an appropriate message.

*Sample Execution:*

?27

THE SUM OF 2 AND 7 is 9.

**Task 2:** Write a program to (a) prompt the user, (b) read first, middle, and last initials of a person’s name, and (c) display them down the left margin.

*Sample Execution:*

Enter three initials: JFK

J

K

F

**Task 3:** Write a program to read one of the hex digits A-F, and display it on the next line in decimal.

*Sample Execution:*

Enter a hex digit: C

In decimal it is 12

**Task 4:** Write a program to display a 10\*10 solid box of asterisk. ***Hint:*** Declare a string in the data segment that specifies the box, and display it with INT 21h, function 9h?

# Lab 12 – Processor Status and Flag Register

## Objectives

The main objective of this lab is to observe the effects on processor status flag bits after execution of different assembly language instructions.

## Lab Tasks

For each of the following program, write down the contents of only those registers and flag bits which have been modified after execution of each instruction. Do, state the reason as well when flags bits modified. Assume flag bits are unset at start of each program.

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Instructions** | **Register Contents** | **Flags bits and reasons** |
|  | MOV AX, 0020h |  |  |
| MOV BX, 00AAH |  |  |
| MOV AH, BL |  |  |
|  | MOV AL,81 |  |  |
| ADD AL,0FEh |  |  |
|  | MOV AX, 5510h |  |  |
| SUB AL,2 |  |  |
|  | MOV AL,0FEh |  |  |
| SUB AL,2 |  |  |
| MOV BL,8Ch |  |  |
| MOV BH,2Dh |  |  |
| ADD BX, AX |  |  |
|  | MOV AX, 1234 |  |  |
| MOV BX, AX |  |  |
| MOV CX, AX |  |  |
| ADD CH, AL |  |  |
| ADD AX, 0FFFFh |  |  |
| DEC BX |  |  |
| NEG CX |  |  |