# Lab Week 5 – Using INT 21h/AH=1, AH=2, AH=9

## Objectives

In this lab, students will execute given sample programs to understand their working and observe their output. In this lab, students are assigned a programming exercise related to what they have learned in previous labs.

## Lab Tasks

Read section interrupts from EMU8086 tutorial. Practice the following code in EMU8086 and write their output:

|  |  |  |
| --- | --- | --- |
|  | **Code** | **Output** |
|  | ORG 0100H  .CODE  MOV AH, 1 ; read character function  INT 21H ; character in AL |  |
|  | ORG 0100H  .CODE  MOV AH, 2  MOV DL, ‘A’ ; display character  INT 21H |  |
|  | ORG 0100H  .DATA  MSG DB "Hello","$"  .CODE  MOV AH, 9  MOV DX, Offset MSG  INT 21H |  |
|  | ORG 0100H  .DATA  MSG DB "Hello",0AH, "Assembly",0Dh, "LAB""$"  .CODE  MOV AH, 9  MOV DX, Offset MSG  INT 21H |  |
|  | ORG 0100H  .DATA  MSG DB "Hello",0AH, "Assembly",0Dh, "LAB","$"  .CODE  MOV AH, 2  MOV DL, MSG+2  INT 21H |  |
|  | ORG 0100H  .DATA  MSG DB "Hello",0AH, 0Dh , ,"Assembly$"  .CODE  MOV AH, 9  LEA DX,MSG  INT 21H |  |

**Task 2:** Write a program to read a character from user, save the character, display the same character in the start of next line on console.

**Task 3:** Write a program to read a character from user, converting character case (lower to upper or upper to lower), then display it on next line on console.

**Task 5:** 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 6:** 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