# Lab 5&6 – An Exercise on Using Basic Instructions

## Objectives

In this lab, students will learn how to use instructions MOV, ADD, SUB, INC, DEC, and NEG in an assembly language program.

## Tasks

**Task 1:** Execute following statements (single-step) in EMU8086. Observe changes in the contents of destination operand.

|  |  |  |
| --- | --- | --- |
| **No.** | **Code Snippet** | **Result** |
|  | MOV AX, 4D12h  MOV BX, 1C21h  ADD AX, BX |  |
|  | MOV AX, 4D12h  MOV BX, 1C21h  SUB AX, BX |  |
|  | MOV AL, 25  MOV BH, 1Ch  ADD AL, BH |  |
|  | MOV CL, 10000011b  MOV CH, 10010010b  SUB CH, CL |  |
|  | MOV AX, 80h  ADD AX, 01 |  |
|  | MOV AL, 80h  ADD AL, 01 |  |
|  | MOV AL, 0A5h  MOV BL, 12h  ADD AL, BL  MOV DH, BL  SUB DH, 10 |  |

**Task 2:** Write assembly language instructions to perform following tasks:

|  |  |  |
| --- | --- | --- |
| **No.** | **Tasks** | **Instructions** |
|  | Copy value 0000100b into lower byte of AX register and value -5 in higher byte of BX register. |  |
|  | Replace contents of DX register by its 2’s complement. |  |
|  | Increment the contents of CX by 1. |  |
|  | Replace contents of BL register by its 1’s complement. |  |
|  | Exchange lower byte of AX and higher byte of DX. |  |