**Computer Organization and Assembly Language**

|  |  |
| --- | --- |
| ***Lab 3*** | |
| **Topic** | 1. Addressing Modes with variations. 2. Flags (CF,ZF,SF) |

Graded Tasks

# Q1: Write a program to solve the following equation:

***Use any addressing mode to access memory variables:***

Let

A=78

B=50

C=39

D=20

E=12

* 1. a=b+c
  2. b=a-d
  3. e=a-b
  4. c=a+e

NOTE: observe the sequence of code, use updated values of variables.

# Q2: Write a program using mov,add or sub instructions to fulfill the status of the flags in such a way that assume values by yourself:

|  |  |
| --- | --- |
| **CF** | **0** |
| **SF** | **1** |
| **ZF** | **0** |

1. mov ….

mov …

add … , ...

|  |  |
| --- | --- |
| **CF** | **1** |
| **SF** | **1** |
| **ZF** | **0** |

1. …..
2. ….

|  |  |
| --- | --- |
| **CF** | **1** |
| **SF** | **0** |
| **ZF** | **1** |

# Q3: Write a program to create 5 word type variables of your choice. **Use the address of third variable and do the following :**

***Type of addressing mode should be Base+index addressing mode:***

Let v1,v2,v3,v4,v5

1. v2=(v1+v5);
2. v1=v4-(v2+v3);