



## EL2003 – COAL-Lab Lab #5 and Lab #6 and Lab #7 Tasks

Time Allowed: 1-hour 45 minutes

Weightage: 6

### Lab 5 Task

#### Problem: 1| Addition [10 marks] 2-wtg

**Convert the following C++ code into assembly code.**

There must be two functions; **add1** will be called from main and **add2** will be called from **add1**. Store results on stack and maintain stack, you must create local variables as created in code. **Single violation of code will lead to a zero.**

```
#include <iostream>
using namespace std ;
int add2 ( int a, int b, int c){
int sum=a+b+c;
return sum;
}
int add1 ( int a, int b){
int sum = a+b;
return add2(sum, a,b);
}

int main ()
{
int out = add1( 2 , 2 );
}
```

### Lab 6 Task

#### Problem: 2| Double-Digit [10 marks] 2-wtg

Suppose you're given 3 double-digit integers. Write code to find the integer whose digits when added are the maximum. Use DIV and there should be subroutine.

Example: 47, 72, 31

47 = 4+7 = 11

72 = 7+2 = 9

31 = 3+1 = 4

As 11 is maximum so output is 47.



## Lab 7 Task

**Problem: 3 Calculate Mode of below dataset. [10 marks] 2-wtg**

```
[org 0x100]

jmp main

data:  dw  2, 2, 1, 2 ,4 ,3, 1,3,3,4
size:  dw 10
median: dw 0
mode:  dw 0

bubbleSort:
ret

calculateMode:
ret

main:

    mov ax, 0x4c00
    int 0x21
```