

### Problem 1:

Create a calculator class with attributes of 2 float variables and 4 methods to add, subtract, multiply, divide and a constructor to take in two floats.

Then create an instance of the class, an object to take in 2 arguments ie. 2 floats input by user.

Code:

```
#include<iostream>
using namespace std;

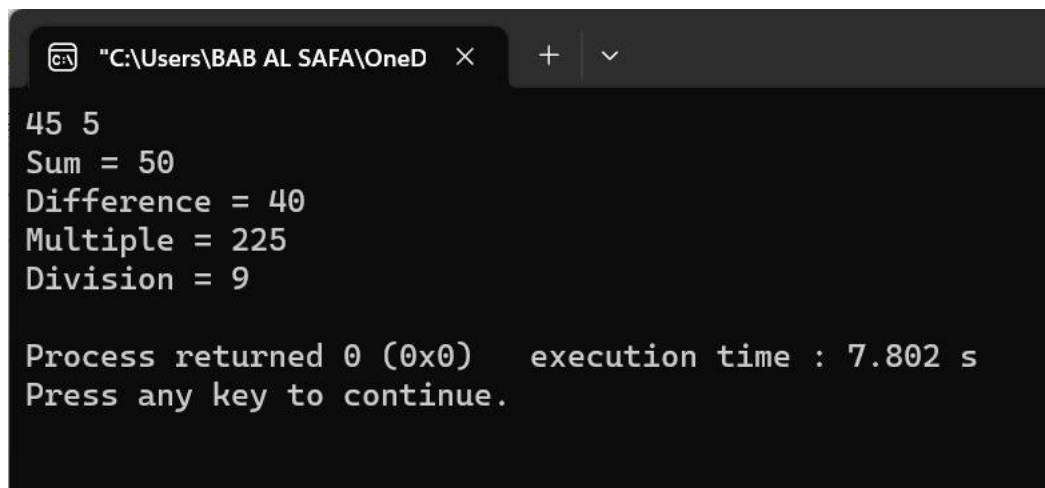
class Calc{
private:
    float a;
    float b;
public:
    Calc(float A, float B){
        a=A;
        b=B;
    }
    float add(){
        return a+b;
    }
    float subtrac(){
        if(a>b)
            return a-b;
        else
            return b-a;
    }
    float multiply(){
        return a*b;
    }
    float devide(){
        return a/b;
    }
};

int main(){

    float a,b;
    cin>>a>>b;
    Calc test1(a,b);

    cout<<"Sum = "<<test1.add()<<"\n"<<"Difference = "<<test1.subtrac()<<"\n"<<"Multiple = 
"<<test1.multiply()<<"\n"<<"Division = "<<test1.devide()<<endl;
    return 0;
}
```

Output:



A screenshot of a Windows command prompt window. The title bar shows the file path "C:\Users\BAB AL SAFA\OneD" and standard window controls. The command prompt displays the following text: "45 5", "Sum = 50", "Difference = 40", "Multiple = 225", "Division = 9", "Process returned 0 (0x0) execution time : 7.802 s", and "Press any key to continue.".

```
45 5
Sum = 50
Difference = 40
Multiple = 225
Division = 9

Process returned 0 (0x0)   execution time : 7.802 s
Press any key to continue.
```

Fig 1: Output on console.

## Problem 2:

Create a student class with attributes, char name, int id, char department, and 3 course-gpa and a constructor, and a method to calculate cgpa and print it on console along with his or her information.

Code:

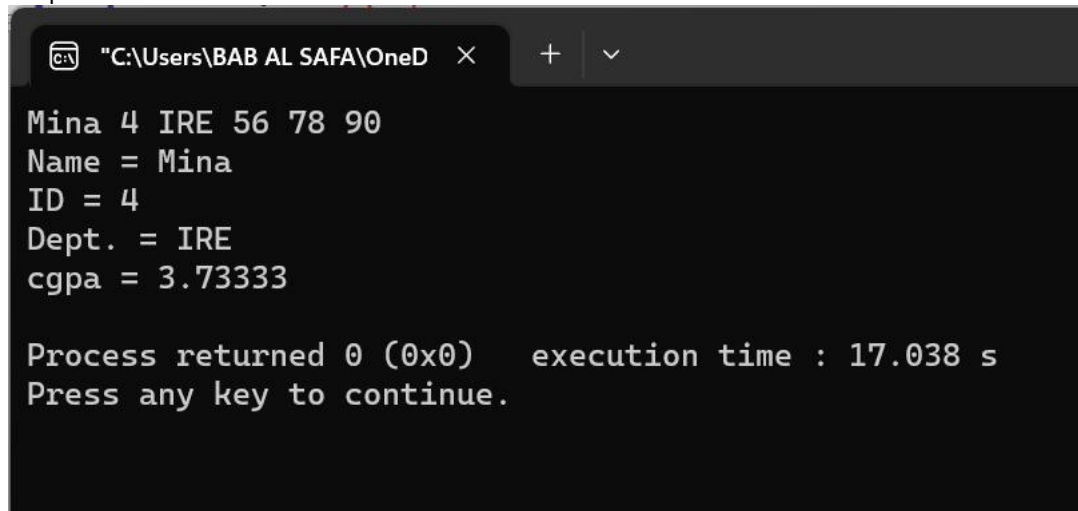
```
#include<iostream>
#include<string>
using namespace std;

class Student{
private:
    string name;
    int id;
    string dept;
    float c1,c2,c3;
public:
    Student(string Name, int Id, string Dept, float C1, float C2, float C3){
        name=Name;
        id=Id;
        dept=Dept;
        c1=C1;
        c2=C2;
        c3=C3;
    }
    float cgpaCalc(){
        return (c1+c2+c3)/60;
    }
    void displayInfo(){
        cout<<"Name = "<<name<<"\n"<<"ID = "<<id<<"\n"<<"Dept. = "<<dept<<"\n"<<"cgpa = "
        <<cgpaCalc()<<endl;
    }
};

int main(){

    string name;
    int id;
    string dept;
    float c1,c2,c3;
    cin>>name>>id>>dept>>c1>>c2>>c3;
    Student students(name, id, dept, c1, c2, c3);
    students.displayInfo();
    return 0;
}
```

Output:

A screenshot of a Windows command prompt window. The title bar shows the file path "C:\Users\BAB AL SAFA\OneD" and standard window controls. The command prompt displays the following text:

```
Mina 4 IRE 56 78 90  
Name = Mina  
ID = 4  
Dept. = IRE  
cgpa = 3.73333  
  
Process returned 0 (0x0)   execution time : 17.038 s  
Press any key to continue.
```

Fig 2: Output on console.