

LAB TASK:-1

```
1 #include<iostream>
2 using namespace std;
3
4 class calculator
5 {
6 public:
7     float add(float a, float b)
8     {
9         return a+b;
10    }
11    float sub(float a, float b)
12    {
13        return a-b;
14    }
15    float Mul(float a, float b)
16    {
17        return a*b;
18    }
19    float Div(float a, float b)
20    {
21        return a/b;
22    }
23 }
24 int main()
25 {
26     calculator cl;
27     char operation;
28     float num1, num2;
29
30     cout<<"Select the operation (add)+, (sub)-, (Mul)*, (Div) / "<<endl;
31     cin>>operation;
32
33     cout<<"Enter two numbers:" ;
34     cin>>num1>>num2;
35
36     switch(operation)
37     {
38     case '+':
39         cout<<"Result = "<<cl.add(num1, num2)<<endl;
40         break;
41     case '-':
42         cout<<"Result = "<<cl.sub(num1, num2)<<endl;
43         break;
44     case '*':
45         cout<<"Result = "<<cl.Mul(num1, num2)<<endl;
46         break;
47     case '/':
48         cout<<"Result = "<<cl.Div(num1, num2)<<endl;
49         break;
50     }
51
52     return 0;
53 }
```

```
Select the operation (add)+, (sub)-, (Mul)*, (Div) /
+
Enter two numbers:120
120
Result=240

Process returned 0 (0x0)  execution time : 20.971 s
Press any key to continue.
```

LAB TASK:-2

LAB TASK:-3

```
1 #include<iostream>
2 using namespace std;
3
4 class Student
5 {
6     private:
7         int STUDENTID;
8         int AGE;
9         string NAME;
10        double GPA;
11    public:
12        //default constructor.
13        Student()
14        {
15            STUDENTID=0;
16            AGE=0;
17            NAME="Default";
18            GPA=0.0;
19        }
20        //with parameterized constructor
21
22        Student(int id,int age,string name,double gpa)
23        {
24            STUDENTID=id;
25            AGE=age;
26            NAME=name;
27            GPA=gpa;
28        }
29        //Display Function
30        void display()
31        {
32            cout<<"Student ID :"<<STUDENTID<<endl;
33            cout<<"Student Age :"<<AGE<<endl;
34            cout<<"Student Name :"<<NAME<<endl;
35            cout<<"Student GPa :"<<GPA<<endl;
36        }
37        //Update Function
38        void Update(int id,int age,string name,double gpa)
39        {
40            STUDENTID=id;
41            AGE=age;
42            NAME=name;
43            GPA=gpa;
44        }
45    };
46
47    int main()
48    {
49        Student s1();
50        Student S2(042,20,"USMAN",2.25)
51
52        //    cout << "Student 1 information :"<<endl;
53        //    s1.display();
54        //    cout<<endl;
55
56        ;cout<<"Student 2 information :"<<endl;
57        S2.display();
58        cout<<endl;
59
60        //    cout<<"\t\t\t-:Updating student 1 information:-\t\t\t"<<endl;
61        //    s1.update(043,22,"ALI",3.54);
62        //
63        //    cout<<"\t\t\t-:student 1 information after update:-\t\t\t"<<endl;
64        //    s1.display();
65
66        cout<<"\t\t\t-:Update student 2 information:-\t\t\t "<<endl;
67        S2.Update(043,21,"Ali",3.4);
68
69        cout<<"\t\t\t-:student 2 information after updating:-\t\t\t "<<endl;
70        S2.display();
71
72        return 0;
73 }
```

```
Student 2 information :
```

```
Student ID :34
```

```
Student Age :20
```

```
Student Name :USMAN
```

```
Student Gpa :2.25
```

```
-:Update student 2 information:-
```

```
-:student 2 information after updating:-
```

```
Student ID :35
```

```
Student Age :21
```

```
Student Name :Ali
```

```
Student Gpa :3.4
```

```
Process returned 0 (0x0) execution time : 0.064 s
```

```
Press any key to continue.
```

LAB TASK:-4

```
1 #include<iostream>
2 using namespace std;
3
4 class Book
5 {
6     private:
7         string ISBN;
8         string TITTLE;
9         string AUTHOR;
10        string GENRE;
11    public:
12        Book()
13        {
14            ISBN="Default";
15            TITTLE="Default";
16            AUTHOR="Default";
17            GENRE="Default";
18        }
19        Book(string I,string T,string A,string G)
20        {
21            ISBN=I;
22            TITTLE=T;
23            AUTHOR=A;
24            GENRE=G;
25        }
26        void display()
27        {
28            cout<<"ISBN :"<<ISBN<<endl;
29            cout<<"TITTLE :"<<TITTLE<<endl;
30            cout<<"AUTHOR :"<<AUTHOR<<endl;
31            cout<<"GENRE :"<<GENRE<<endl;
32        }
33        void update(string I,string T,string A,string G)
34        {
35            ISBN=I;
36            TITTLE=T;
37            AUTHOR=A;
38            GENRE=G;
39        }
40    };
41    int main()
42    {
43        Book B1();
44        Book B2("00998","The king","Pakistan","Imran");
45
46        cout<<"\t\t***Book 2 information:***\t\t\t"<<endl;
47        B2.display();
48
49        cout<<"\t\t\t***Update the information of B2:***\t\t\t"<<endl;
50        B2.update("00776655","Queen","AFG","Khan");
51
52        cout<<"\t\t\t***After the update B2 information is:***\t\t\t"<<endl;
53        B2.display();
54
55        return 0;
56    }
```

Book 2 information:

ISBN :00998

TITLE :The king

AUTHOR :Pakistan

GENRE :Imran

Update the information of B2:

After the update B2 information is:

ISBN :00776655

TITLE :Queen

AUTHOR :AFG

GENRE :Khan

Process returned 0 (0x0) execution time : 0.075 s

Press any key to continue.

LAB TASK:-5

```
1 #include<iostream>
2 using namespace std;
3
4 class Student
5 {
6     private:
7         string name;
8         int rollnum;
9         char grade;
10    public:
11        Student()
12        {
13            name="Unknown";
14            rollnum=0;
15            grade='F';
16        }
17        Student(string N,int R,char G)
18        {
19            name=N;
20            rollnum=R;
21            grade=G;
22        }
23        void display()
24        {
25            cout<<"Name of student :"<<name<<endl;
26            cout<<"Roll number of student :"<<rollnum<<endl;
27            cout<<"Grade of student :"<<grade<<endl;
28        }
29
30    };
31    int main()
32    {
33        Student S1;
34        S1.display();
35        cout<<endl;
36
37        Student S2 ("Usman",1000,'B');
38        S2.display();
39
40    return 0;
41 }
```

```
NAme of student :Unknown  
Roll number of student :0  
Grade of student :F
```

```
NAme of student :Usman  
Roll number of student :1000  
Grade of student :B
```

```
Process returned 0 (0x0)   execution time : 0.081 s  
Press any key to continue.
```

LAB TASK:-6

