

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 c1;
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="<<c1.add(num1,num2)<<endl;
40         break;
41     case '-':
42         cout<<"Result="<<c1.sub(num1,num2)<<endl;
43         break;
44     case '*':
45         cout<<"Result="<<c1.Mul(num1,num2)<<endl;
46         break;
47     case '/':
48         cout<<"Result="<<c1.Div(num1,num2)<<endl;
49         break;
50     }
51     return 0;
52 }
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;
```

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         cout<<"ISBN :"<<ISBN<<endl;
28         cout<<"TITTLE :"<<TITTLE<<endl;
29         cout<<"AUTHOR :"<<AUTHOR<<endl;
30         cout<<"GENRE :"<<GENRE<<endl;}
31
32     void update(string I,string T,string A,string G)
33     {
34         ISBN=I;
35         TITTLE=T;
36         AUTHOR=A;
37         GENRE=G;
38     }
39 };
40 int main()
41 {
42     Book B1();
43     Book B2("00998","The king","Pakistan","Imran");
44
45     cout<<"\t\t***sBook 2 information:***\t\t\t"<<endl;
46     B2.display();
47
48     cout<<"\t\t\t***Update the information of B2:***\t\t\t"<<endl;
49     B2.update("00776655","Queen","AFG","Khan");
50
51     cout<<"\t\t\t***After the update B2 informatin is:***\t\t\t"<<endl;
52     B2.display();
53
54     return 0;
55
56 }
```

sBook 2 information:

ISBN :00998

TITTLE :The king

AUTHOR :Pakistan

GENRE :Imran

Update the information of B2:

After the update B2 informatin is:

ISBN :00776655

TITTLE :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

