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/*
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Batch    :        A
Experiment no.:  01
Title      :      C++ program to implement simple arithmetic calculator
*/

//Program:

#include<iostream>
using namespace std;
class Mycalc
{
  int a,b;
  public:
  void input();
  int add();
  int sub();
  int mul();
  int div();
  int sqr();
  int fact();
};
void Mycalc::input()
{
  cout<<" Enter Value of a=";
  cin>>a;
  cout<<"\n Enter Value of b=";
```

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  cin>>b;

}
int Mycalc::add()
{
   int c;
   c=a+b;
   cout<<"Addition= "<<c<<endl;
   return c;
 }
int Mycalc::sub()
{
   int c;
   c=a-b;
   cout<<"Subtraction= "<<c<<endl;
   return c;
 }
int Mycalc::mul()
{
   int c;
   c=a*b;
   cout<<"Multiplication= "<<c<<endl;
   return c;
}
int Mycalc::div()
{
   int c;
   c=a/b;
   cout<<"Division= "<<c<<endl;
   return c;
```

```
}
int Mycalc::sqr()
{
   int c;
   c=a*a;
   cout<<"Square of a= "<<c<<endl;
   return c;
}
int Mycalc::fact()
{
    int i,fact=1,facto=1;
    for(i=1;i<=a;i++)
    {
                    fact=fact*i;
    }
          cout<<"factorial of a="<<fact<<endl;
          for(i=1;i<=b;i++)
          {
                   facto=facto*i;
    }
    cout<<"factorial of b="<<facto;
}
int main()
{
   Mycalc ob;
   int ch,c;
   while(1)
   {
     cout<<"1.Addition      :"<<endl;
     cout<<"2.Subtraction   :"<<endl;
```

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    cout<<"3.Multiplication:"<<endl;
    cout<<"4.Division      :"<<endl;
    cout<<"5.Square        :"<<endl;
    cout<<"6.Factorial     :"<<endl;
    cout<<"enter choice:"<<endl;
    cin>>ch;
    switch(ch)
    {
      case 1:ob.input();
             c=ob.add();
             break;
       case 2:ob.input();
             c=ob.sub();
             break;
       case 3:ob.input();
             c=ob.mul();
             break;
       case 4:ob.input();
             c=ob.div();
             break;
       case 5:ob.input();
             c=ob.sqr();
             break;
       case 6:ob.input();
             c=ob.fact();
             break;
    }
   }
  return 0;
}
```

/*

OUTPUT:

1.Addition :

2.Subtraction :

3.Multiplication:

4.Division :

5. Square :

6. Factorial :

enter choice:

1

Enter Value of a=6

Enter Value of b=2

Addition= 8

1.Addition :

2.Subtraction :

3.Multiplication:

4.Division :

5. Square :

6. Factorial :

enter choice:

2

Enter Value of a=41

Enter Value of b=26

Subtraction= 15

1.Addition :

2.Subtraction :

3.Multiplication:

4.Division :

5. Square :
6. Factorial :
enter choice:
3
Enter Value of a=45

Enter Value of b=62
Multiplication= 2790
1.Addition :
2.Subtraction :
3.Multiplication:
4.Division :
5. Square :
6. Factorial :
enter choice:
4
Enter Value of a=100

Enter Value of b=25
Division= 4
1.Addition :
2.Subtraction :
3.Multiplication:
4.Division :
5. Square :
6. Factorial :
enter choice:
5
Enter Value of a=15

```
 Enter Value of b=10
Square of a= 225
1.Addition      :
2.Subtraction :
3.Multiplication:
4.Division      :
5. Square        :
6. Factorial     :
enter  choice:
6
  Enter Value of a=6

 Enter Value of b=5
factorial of a=720
factorial of b=120
1.Addition      :
2.Subtraction :
3.Multiplication:
4.Division      :
5. Square        :
6. Factorial     :
enter choice:



*/
```