

```

#include<iostream>

using namespace std

class Calculator//class declairation
{
    public:

    int a,b,num,choice,factorial;

    double per;//data members

    Calculator()//Default constructor
    {
        cout<<"****BASIC CALCULATOR****"<<endl;
        cout<<"-----"<<endl;
        cout<<"-choose choices from below-"<<endl;
        cout<<"-----"<<endl;

        cout<<"1)Addition.\n2)Subtraction.\n3)Multiplication.\n4)Division.\n5)Modulas.\n6)Tables calculate of any no.\n7)Square of any no.\n8)Cube of any no.\n9)Calculate Factorial.\n10)CGPA calculate.\n11)Exit from program.\n";
        cout<<"-----"<<endl;
    }

    int Operation()//returns integer value
    {
        while(true)

```

```
{  
cout<<"Enter your choice please:"<<endl;  
cin>>choice;
```

```
switch(choice)
```

```
{
```

```
case 1:
```

```
cout<<"Enter the a value:"<<endl;
```

```
cin>>a;
```

```
cout<<"Enter the b value:"<<endl;
```

```
cin>>b;
```

```
cout<<"Addition:"<<a+b<<endl;
```

```
cout<<"-----"<<endl;
```

```
break;
```

```
case 2:
```

```
cout<<"Enter the a value:"<<endl;
```

```
cin>>a;
```

```
cout<<"Enter the b value:"<<endl;
```

```
cin>>b;
```

```
cout<<"Subtraction:"<<a-b<<endl;
```

```
cout<<"-----"<<endl;
```

```
break;
```

```
case 3:
```

```
cout<<"Enter the a value:"<<endl;
```

```
cin>>a;
```

```
cout<<"Enter the b value:"<<endl;
```

```
cin>>b;
```

```
cout<<"Multiplication:"<<a*b<<endl;
```

```
cout<<"-----"<<endl;
```

```
break;
```

```
case 4:
```

```
cout<<"Enter the a value:"<<endl;
```

```
cin>>a;
```

```
cout<<"Enter the b value:"<<endl;
```

```
cin>>b;
```

```
if (b != 0)//0 value for b doesn't allow
```

```
cout << "Quotient = " << a / b<<endl;
```

```
else
```

```
cout << "Cannot divide by zero!"<<endl;
```

```
cout<<"-----"<<endl;
```

```
break;
```

case 5:

```
cout<<"Enter the a value:"<<endl;
```

```
cin>>a;
```

```
cout<<"Enter the b value:"<<endl;
```

```
cin>>b;
```

```
cout<<"Modulas:"<<a%b;
```

```
cout<<"-----"<<endl;
```

```
break;
```

case 6:

```
cout<<"Enter the number:"<<endl;
```

```
cin>>num;
```

```
for (int i = 1; i <= 10; i++)
```

```
cout << num<< " x " << i << " = " << num* i << endl;
```

```
cout<<"-----"<<endl;
```

```
break;
```

case 7:

```
cout<<"Enter the number:"<<endl;
```

```
cin>>num;
```

```
cout <<"Sqaure of "<<num<< " = " << num*num<< endl;
```

```
cout<<"-----"<<endl;
```

```
break;
```

```
case 8:
```

```
cout<<"Enter the number:"<<endl;
```

```
cin>>num;
```

```
cout <<"Cube of "<<num<<" = " << num*num*num<< endl;
```

```
cout<<"-----"<<endl;
```

```
break;
```

```
case 9:
```

```
cout<<"Enter the number:"<<endl;
```

```
cin>>num;
```

```
factorial=1;
```

```
for (int i = 1; i <= num; ++i) {
```

```
factorial *= i;//factorial calculate and store value in factioal variable
```

```
}
```

```
cout <<"Factorial of " << num <<" = " << factorial << endl;
```

```
cout<<"-----"<<endl;
```

```
break;
```

```
case 10:
```

```
cout<<"Enter your percentage:"<<endl;
```

```
cin>>per;

cout <<"CGPA of "<<per<<"%"<<" = " <<per/9.0<< endl;

cout<<"-----"<<endl;

break;
```

```
case 11:

cout << "Exiting... Thank you!" << endl;

cout<<"-----"<<endl;

return 0; // Terminates the program

break;
```

```
default:

cout<<"Your case is invalid!"<<endl;

cout<<"-----"<<endl;

break;
```

```
}
```

```
}
```

```
}
```

```
};
```

```
int main()
```

```
{
```

```
    Calculator c;//default constructor called and object created
```

```
c.Operation();//member function
```

```
return 0;
```

```
}
```