

```

#include<iostream>
using namespace std;
class arithmetic
{
    int a, b, result;
public:
    int get()
    {
        cout<<"\n enter the two number to do arithmetic operations :";
        cin>>a>>b;
    }
    int add()
    {
        result=a+b;
        cout<<"\n Adddition of "<<a<<" and "<<b<<" is :"<<result;
    }
    int sub()
    {
        result=a-b;
        cout<<"\n Subtraction of "<<a<<" and "<<b<<" is :"<<result;
    }
    int mul()
    {
        result=a*b;
        cout<<"\n Multiplication of "<<a<<"and"<<b<<"is :"<<result;
    }
    int div()
    {
        result=a/b;
        cout<<"\n Division of "<<a<<"and"<<b<<"is :"<<result;
    }
    int mod()
    {
        result=a%b;
        cout<<"\n Modulus of "<<a<<"and"<<b<<"is :"<<result;
    }
};
class factorial
{
    int num,i,fact=1;
public:
    int read()
    {
        cout<<"\n enter the number to find the factorial:";
        cin>>num;
    }
    int findfact()
    {
        if(num==0)
        {
            return 1;
        }
        else
        {
            for(i=1;i<=num;i++)
            {
                fact=fact*i;
            }
        }
    }
    int show(){
        cout<<"\n factorial of "<<num<<"is"<<fact;
    }
};

```

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class average
{
    private:
        int a,b,c,res;
    public:
        void read()
        {
            cout<<"\n Enter the three numbers to find out the average:";
            cin>>a>>b>>c;
        }
        void avg()
        {
            res=(a+b+c)/3;
            cout<<"\n Average of:"<<a<<" "<<b<<" and "<<c<<" is "<<res;
        }
};

class eno
{
    private:
        int n;
    public:
        int even()
        {
            cout<<"\n Enter the number to check whether the number is even or
odd :";
            cin>>n;
            if(n%2==0)
            {
                cout<<"\n"<<n<<" is even number";
            }
            else{
                cout<<"\n"<<n<<" is odd number";
            }
        }
};

class prime
{
    private:
        int i,n,count;
    public:
        int receive()
        {
            cout<<"Enter the number to know whether it is prime or not:";
            cin>>n;
        }
        int findprime()
        {
            for(i=2;i<=n;i++)
            {
                if(n%2==0)
                {
                    count=count++;
                }
                else if(count==1)
                {
                    cout<<"\n number is prime";
                }
                else
                {
                    cout<<"\n number is composite";
                }
            }
        }
};

```

```
int main()
{
    arithmetic xyz;

    factorial abc;
    abc.read();
    abc.findfact();
    abc.show();

    xyz.get();
    xyz.add();
    xyz.sub();
    xyz.mul();
    xyz.div();
    xyz.mod();

    average pqr;
    pqr.read();
    pqr.avg();

    eno cde;
    cde.even();

    prime obj;
    obj.receive();
    obj.findprime();
    return 0;
}
```