ASSIGNMENT NO 01

**import** java.util.Scanner;

**public** **class** Complex

{

**public** **static** **void** main(String args[])

{

**int** ch;

**int** r,i;

Scanner s=**new** Scanner(System.***in***);

Complexop c=**new** Complexop();

System.***out***.println("Enter YOur first Complex Number:");

System.***out***.println("Enter Real Part");

r=s.nextInt();

System.***out***.println("Enter Imaginary Part");

i=s.nextInt();

Complexop ob1=**new** Complexop(r,i);

System.***out***.println("Enter YOur Second Complex Number:");

System.***out***.println("Enter Real Part");

r=s.nextInt();

System.***out***.println("Enter Imaginary Part");

i=s.nextInt();

Complexop ob2=**new** Complexop(r,i);

**do**

{

System.***out***.println("1.ADD \n 2.SUBSTRACTION \n 3.MULTIPLICATION \n 4.DIVISION \n 5.EXIT \n ENTER YOUR CHOICE :");

ch=s.nextInt();

**switch**(ch)

{

**case** 1:

c.addition(ob1,ob2);

**break**;

**case** 2:

c.substraction(ob1,ob2);

**break**;

**case** 3:

c.multiplication(ob1,ob2);

**break**;

**case** 4:

c.division(ob1,ob2);

**break**;

}

}**while**(ch<=4);

}

}

**class** Complexop

{

**private** **int** real,imag;

Complexop()

{

real=0;

imag=0;

}

Complexop(**int** real,**int** imag)

{

**this**.real=real;

**this**.imag=imag;

}

**void** addition(Complexop c1,Complexop c2)

{

**this**.real=c1.real+c2.real;

**this**.imag=c1.imag+c2.imag;

System.***out***.println("Addition Result is :"+**this**.real+"+"+**this**.imag+"i");

}

**void** substraction(Complexop c1,Complexop c2)

{

**this**.real=c1.real-c2.real;

**this**.imag=c1.imag-c2.imag;

System.***out***.println("Substraction Result is :"+**this**.real+"+"+**this**.imag+"i");

}

**void** multiplication(Complexop c1,Complexop c2)

{

**this**.real=(c1.real\*c2.real)-(c1.imag\*c2.imag);

**this**.imag=(c1.real\*c2.imag)+(c2.real\*c1.imag);

System.***out***.println("Multipication Result is:"+**this**.real+"+"+**this**.imag+"i");

}

**void** division(Complexop c1,Complexop c2)

{

**int** s;

s=(c2.real\*c2.real)+(c2.imag\*c2.imag);

**this**.real=((c1.real\*c2.real)+(c1.imag\*c2.imag))/s;

**this**.imag=((c2.real\*c1.imag)-(c1.real\*c2.imag))/s;

System.***out***.println("Division Result is :"+**this**.real+"+"+**this**.imag+"i");

}

}