E.B.SUWATHI [15L247]

ECE – B

JAVA DAY 3 ASSIGNMENT

Complex.java

```
class Complex {
private int real;
private int imaginary;
public Complex () {
         real = 0;
         imaginary = 0;
    }
public Complex ( int re, int img) {
        real = re;
        imaginary = img ;
   }
public void add ( int re , int img) {
    System.out.println("real value       :"+" "+ (real + re) );
    System.out.println ("imaginary value  :" + " "+(imaginary+img) ) ;
   }
public void subtract ( int re , int img) {
    System.out.println("real value       :"+" "+ (real - re) );
    System.out.println ("imaginary value  :" + " "+ (imaginary - img) ) ;
   }
public void multiplyWith ( int re , int img) {
    System.out.println("real value       :"+" "+ ( (real * re) - (imaginary *
img) ) );
    System.out.println ("imaginary value  :" + " "+ ( (imaginary * re) + (real *
img)  ) ) ;
    }
public void divideBy ( int re , int img) {

    double realPart = ( (real * re) + (imaginary * img) ) /  ( (re * re) + (img *
img) ) ;
    double imaginaryPart=  ( (-img * real) + (re * imaginary) ) / ( (re * re) +
(img * img) ) ;

    System.out.println("real value       :"+" "+ Math.round(realPart) );
    System.out.println ("imaginary value  :" + " "+ imaginaryPart  ) ;
    }
public boolean isReal () {
    if (real!=0  && imaginary==0)
```

```
        return true ;
    else
        return false ;
}
public boolean isImaginary () {
    if (real==0  && imaginary!=0)
        return true ;
    else
        return false ;
}

}
```

Solution.java:

```
public class Solution {
     public static void main(String[] args){
        boolean check,check1;
        Complex cmp=new Complex ();
        Complex cmp1 = new Complex( 3,4);
        System.out.println(" \n**********COMPPLEX ADDITION **********");
        cmp1.add( 2,3);
        System.out.println(" \n**********COMPPLEX SUBTRACTION **********");
        cmp1.subtract(1,4);
        System.out.println(" \n**********COMPPLEX MULTIPLICATION **********");
        cmp1.multiplyWith(2,3);
        System.out.println(" \n**********COMPPLEX DIVISION **********");
        cmp1.divideBy(2,1);
        System.out.println(" \n**********COMPPLEX ISREAL **********");
        check=cmp.isReal();
        System.out.println("isreal           :"+check);
        System.out.println(" \n**********COMPPLEX ISIMAGINARY **********");
        check1=cmp.isImaginary();
        System.out.println("isimaginary      :"+check1);
    }
}
```

OUTPUT:

```
C:\Users\students\Documents\javaasisgnment>javac Complex.java

C:\Users\students\Documents\javaasisgnment>javac Solution.java

C:\Users\students\Documents\javaasisgnment>java Solution

**********COMPPLEX ADDITION **********
real value       : 6
imaginary value  : 10

**********COMPPLEX SUBTRACTION **********
real value       : 3
imaginary value  : 3

**********COMPPLEX MULTIPLICATION **********
real value       : -13
imaginary value  : 26

**********COMPPLEX DIVISION **********
real value       : 5
imaginary value  : 1.0

**********COMPPLEX ISREAL **********
isreal           :false

**********COMPPLEX ISIMAGINARY **********
isimaginary      :false

C:\Users\students\Documents\javaasisgnment>
```