TASK COMPLEX NUMBER

Complex.java

```
public class Complex {
        public int real1 = 3;
        public int imaginary1 = 5;
        int real2;
        int imaginary2;
        int real;
        String img;
         int ansReal;
         int ansImaginary;
        int len;
  public Complex(int real, String img) {
        this.real =real;
        this.img =img;
        len= img.length();
     }
  public boolean isReal() {
        if(this.real!=0)
        return true;
         else
        return false;
}
 public boolean isImaginary() {
        for(int i=0;i<len;i++) {
        if(img.charAt(i)=='i')
        return true;
  }
        return false;
}
```

```
public void add(int real,int imaginary) {
            real2 = real;
           imaginary2 = imaginary;
            System.out.println(real1);
           System.out.println(imaginary1);
           ansReal=real1+real2;
           ansImaginary=imaginary1+imaginary2;
           System.out.println("Addition of 2 complex numbers: ");
            print();
}
  public void subtract(int real,int imaginary) {
            this.real2 = real;
            this.imaginary2 = imaginary;
            this.ansReal=real1-real2;
            this.ansImaginary=imaginary1-imaginary2;
           System.out.println("Subtraction of 2 complex numbers: ");
            print();
}
 public void multiplyWith(int real,int imaginary) {
            this.real2=real;
            this.imaginary2=imaginary;
            this.ansReal=(real1*real2)+((imaginary1*imaginary2)*-1);
            this.ansImaginary=(real1*imaginary2)+(real2*imaginary1);
            System.out.println("Multiplication of 2 complex numbers: ");
            print();
}
 public void divideBy(int real,int imaginary) {
            this.real2=real;
            this.imaginary2=imaginary;
            int numReal;
            int numImaginary;
```

```
        int denReal;
        numReal=(real1*real2)+(imaginary1*imaginary2);
        numImaginary=(real1*(-imaginary2))+(imaginary1*real2);
        denReal=(real2*real2)+(imaginary2*imaginary2);
        System.out.println("Division of 2 complex numbers:
        "+"("+numReal+"+"+numImaginary+"i)/"+denReal);
        }
 public void print() {
        System.out.println(this.ansReal+"+"+this.ansImaginary+"i");
        }
}
```

Solution.java

```
import java.io.BufferedReader;
import java.io.InputStreamReader;
import java.io.IOException;
public class Solution {
public static void main(String args[]) throws IOException {
BufferedReader bf = new BufferedReader(new InputStreamReader(System.in));

 System.out.println("\n\t1.IS REAL?\n\t2.IS
IMAGINARY?\n\t3.ADDITION\n\t4.SUBTRACTION\n\t5.MULTIPLICATION\n\t6.DIVISION");
 System.out.println("GIVE UR CHOICE");
 int choice = Integer.parseInt(bf.readLine());
 System.out.println("GIVE REAL PART");
 int r = Integer.parseInt(bf.readLine());
 System.out.println("GIVE IMAGINARY PART");
 String str = bf.readLine();
 Complex cObj = new Complex(real,str);
 String s[] = str.split("i");
 int i = Integer.parseInt(s[0]);
```

```
switch(choice)   {
    case 1: System.out.println(comp.isReal());
            break;
    case 2: System.out.println(comp.isImaginary());
            break;
    case 3: comp.add(real,i);
            break;
    case 4: comp.subtract(real,i);
            break;
    case 5: comp.multiplyWith(real,i);
            break;
    case 6: comp.divideBy(real,i);
            break;
    default:System.out.println("INVALID SELECTION");

  }
  }
}
```