Addition of Two complex Numbers

```
import java.io.*;

class main
{
  public static void main(String args[])
  {
    complex c1 = new complex();
    c1.read();
    complex c2 = new complex();
    c2.read();
    complex c3 = new complex();
    c3 = c3.addComplex(c1,c2);
    System.out.println("sum is "+c3.ireal+"
       +"+c3.imaginary+"i");
    //System.out.println("Imaginary Part "+c3.imaginary);


  }
}

class complex
{
  int ireal,imaginary;
  complex()
  {
    ireal = 0;
    imaginary = 0;
  }

  void read()
  {
    try
    {
      DataInputStream din = new DataInputStream(System.in);
      System.out.println("Enter the Real");
      ireal = Integer.parseInt(din.readLine());
    }
    catch(Exception IOException)
    {
      ;
    }
    try
    {
      DataInputStream dis = new DataInputStream(System.in);
      System.out.println("Enter the Imaginary Part");
      imaginary = Integer.parseInt(dis.readLine());
```

```
    }
    catch(Exception IOException)
    {
      ;
    }

  }
  complex addComplex(complex c1,complex c2)
  {
    complex ctemp = new complex();
    ctemp.ireal = c1.ireal + c2.ireal;
    ctemp.imaginary = c1.imaginary + c2.imaginary;
    return ctemp;
  }
}
```

Output

```
42813@user:/mnt/42813/networklab$ java main
Enter the Real
3
Enter the Imaginary Part
2
Enter the Real
5
Enter the Imaginary Part
2
sum is 8 +4i
```

Find and Replace a substring in a string

```
import java.io.*;
class string
{
  public static void main(String[] args) {
    String s1=" ";
    String s2=" ";
    String s3=" ";
    String s4=" ";

    try
    {
    System.out.println("Enter the string");
    DataInputStream din = new DataInputStream(System.in);
    s1 = din.readLine();
    System.out.println("Enter the string to be searched");
    DataInputStream din2 = new DataInputStream(System.in);
    s2 = din2.readLine();
    System.out.println("Enter the string to be replaced");
    DataInputStream din3 = new DataInputStream(System.in);
    s3 = din3.readLine();
    }
    catch(Exception IOException)
    {
      ;
    }
    s4=s1.replaceAll(s2,s3);
    System.out.println(s4);

  }
}
```

Output

```
42813@user:/mnt/42813/networklab$ java string
Enter the string
Hello World
Enter the string to be searched
World
Enter the string to be replaced
Farhan
Hello Farhan
```

Multithreading in JAVA

```
import java.io.*;


class thread{
  public static void main(String[] args)
  {
    runnable r = new runnable();
    Thread t = new Thread(r);
    runnable2 r2 = new runnable2();
    Thread t2 = new Thread(r2);
    t.start();
    t2.start();

  }
}


class runnable implements Runnable
{
  int i;
  public void run()
  {
    for (i=0;i < 6;i++ ) {
      System.out.println("Thread one "+ i);
    }
  }
}


class runnable2 implements Runnable
{
  int i;
  public void run()
  {
    for (i=5;i >= 0;i-- ) {
      System.out.println("Thread two "+ i);
    }
  }
}
```

Output

```
42813@user:/mnt/42813/networklab$ java thread
Thread one 0
Thread two 5
Thread two 4
Thread one 1
```

```
Thread two 3
Thread one 2
Thread two 2
Thread one 3
Thread two 1
Thread one 4
Thread two 0
Thread one 5
```