**Practical-1**

Q1-Design a class Complex having a real part (x) and an imaginary part (y). Provide methods to perform the following on complex numbers:

• Add two complex numbers. Multiply two complex numbers. toString() method to display complex numbers in the form: x+iy

Code:-

|  |
| --- |
| **public class** ComplexNumber{ |
| **private int** x; |
| **private int** y; |
| **public** ComplexNumber(**int** real, **int** imaginary) |
| { |
| this.x=real; |
| this.y=imaginary; |
| } |
| **public** ComplexNumber add(ComplexNumber o) |
| { |
| return new ComplexNumber(this.x + o.x , this.y+o.y); |
| } |
|  |
| **public** ComplexNumber multiply(ComplexNumber o) |
| { |
| return new ComplexNumber(this.x\*o.x - this.y\*o.y , this.x\*o.y + o.x\*this.y); |
| } |
| **public** String toString() |
| { |
| return x +"+ i "+y; |
| } |
| **public static void** main(String[] args) |
| { |
| ComplexNumber c1= new ComplexNumber(1,2); |
| ComplexNumber c2= new ComplexNumber(3,4); |
| System.out.println("Complex Number 1:"+c1); |
| System.out.println("Complex Number 2:"+c2); |
| System.out.println("Sum:"+c1.add(c2)); |
| System.out.println("Product:"+c2.multiply(c1)); |
| } |
| } |

Output:-

