NAME: ZISHNENDU SARKER
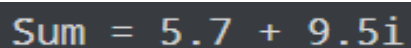**ROLL: 2K19/CO/450**
JAVA PROGRAMMING
LAB ASSIGNMENT 05
Group: A, G3

- **Java Program to Add Two Complex Numbers by Passing Class to a Function**

```
public class Complex {

  double real;
  double imag;

  public Complex(double real, double imag) {
    this.real = real;
    this.imag = imag;
  }

  public static void main(String[] args) {
    Complex n1 = new Complex(2.3, 4.5),
        n2 = new Complex(3.4, 5.0),
        temp;

    temp = add(n1, n2);

    System.out.printf("Sum = %.1f + %.1fi", temp.real, temp.imag);
  }

  public static Complex add(Complex n1, Complex n2)
  {
    Complex temp = new Complex(0.0, 0.0);

    temp.real = n1.real + n2.real;
    temp.imag = n1.imag + n2.imag;

    return(temp);
  }
}
```

OUTPUT:

```
Sum = 5.7 + 9.5i
```

- **Java Program to Create custom exception**

```java
import java.util.ArrayList;

import java.util.Arrays;

class CustomException extends Exception {

  public CustomException(String message) {

    super(message);

  }

}


class Main {

  ArrayList<String> languages = new ArrayList<>(Arrays.asList("Java", "Python",
"JavaScript"));

  public void checkLanguage(String language) throws CustomException {

    if(languages.contains(language)) {

      throw new CustomException(language + " already exists");

    }

    else {

      languages.add(language);

      System.out.println(language + " is added to the ArrayList");

    }

  }


  public static void main(String[] args) {

    Main obj = new Main();

    try {

      obj.checkLanguage("Swift");

      obj.checkLanguage("Java");
```

```
  }

  catch(CustomException e) {

    System.out.println("[" + e + "] Exception Occured");

  }

}
```

OUTPUT:

```
Swift is added to the ArrayList
[CustomException: Java already exists] Exception Occured
```

- **Java Program to Create an enum class**

```
enum Size{

 SMALL, MEDIUM, LARGE, EXTRALARGE;


 public String getSize() {

 switch(this) {

  case SMALL:

    return "small";


  case MEDIUM:

    return "medium";


  case LARGE:

    return "large";
```

```java
      case EXTRALARGE:

        return "extra large";


      default:

        return null;

      }

  }


  public static void main(String[] args) {

     System.out.println("The size of Pizza I get is " + Size.SMALL.getSize());

     System.out.println("The size of Pizza I want is " + Size.LARGE.getSize());

  }

}
```
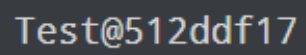
OUTPUT:

```
The size of Pizza I get is small
The size of Pizza I want is large
```

● **Java Program to Print object of a class**

```java
class Test {
```

```
}
class Main {
  public static void main(String[] args) {
    Test obj = new Test();
    System.out.println(obj);
  }
}
```

OUTPUT:

Test@512ddf17