

Object Oriented Programming with Java
Lab Practice:2

1. Write an AreaTester program that constructs a Rectangle object and then computes and prints its area. Use the *getWidth()* and *getHeight()* methods. 15

Hint: use import *java.awt.Rectangle*;

2. Write a program **HollePrinter** that switches the letters "e" and "o" in a string. Use the replace method repeatedly. Demonstrate that the string "Hello, World!" turns into "Holle, Werld!"
15

3. What is wrong with the following sequence of statements? 5

```
int mystery = 1;  
mystery = mystery + 1;  
int mystery = 1 - 2 * mystery;
```

4. The Random class implements a random number generator, which produces sequences of numbers that appear to be random. To generate random integers, you construct an object of the Random class, and then apply the *nextInt* method. For example, the call *generator.nextInt(6)* gives you a random number between 0 and 5. 15

Write a program **DieSimulator** that uses the Random class to simulate the cast of a die, printing a random number between 1 and 6 every time that the program is run.

5. Write a Java method to check whether a string is a valid password. 50

Password rules:

A password must have at least 6 characters.

A password consists of only letters and digits.

A password must contain at least three digits.

Using the following code below and complete the task.

```
import java.util.Scanner;
```

```
public class Password {
```

```
(Define.....) PASS_LENGTH = 6;
```

```
public static void main(String[] args) {
```

```
    Scanner input = new Scanner(System.in);
```

```
    System.out.print(
```

```
        "1. A password must have at least six characters.\n" +
```

```
        "2. A password consists of only letters and digits.\n" +
```

```
        "3. A password must contain at least three digits \n" +
```

```
        "Input a password (You are agreeing to the above Terms and Conditions.): ");
```

```
    String s = input.nextLine();
```

```
    if (is_Valid_Password(s)) {
```

```
        System.out.println("Password is valid: " + s);
```

```
    } else {
```

```
        System.out.println("Not a valid password: " + s);
```

```
    }
```

```
}
```

```
.....
```

```
.....
```

```
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```
.....
```