Lab Assignment 01

2021 – 2022 Spring, CMPE 114 - 211 Fundamentals of Programming II

Question 01

Submission

You need to implement all the answers of the questions and upload your Java source files (StringPrac.java, Diagonal.java, PlayWithLuck.java) as a single Zip file into the available Moodle submission.

1. Fill in the blanks in the program below as follows:

(a) declare the variable *color2* as a reference to a String object and initialize it to "Yellow".

(b) complete the assignment statement to concatenate *color2 to color1* (use the *concat* method of the String class rather than the + operator).

(c) write an assignment statement that invokes the *length* method of the string class to find the length of the *color2* String object and assign it to *stringLen*.

(d) complete the assignment statement to find the character in *color1* in the position stringLen+1 and assign it to *pos*.

(e) complete the assignment statement so that *color2* is the same as *color1* except all e's are replaced with the plus (+) character.

```
// ************************************************
// StringPrac.java
// Play with String objects
// ************************************************
public class StringPrac{
public static void main (String[] args){
String color1 = new String("Green");
_____; // part (a)
_____; // part (b)
int stringLen;
_____; // part (c)
char pos;
_____; // part (d)
```

System.out.println (“The character at the index ”+ (stringLen+1)+” is ”+ pos);

_____; // part (e)

System.out.println ("The final string is " + color2);

}

}

2. The following program should read in the lengths of two sides of a rectangular and compute the diagonal of the rectangular (recall that the length of the diagonal is the square root of side 1 squared plus side 2 squared). Complete it by adding statements to read the input from the keyboard and to compute the length of the diagonal (you need to use a Math class method for that).

```
// ****************************************************************
// Diagonal.java
// Compute the length of the diagonal of a rectangular
// given the lengths of the sides
// ****************************************************************
import java.util.Scanner;
public class Diagonal {
public static void main (String[] args){
double side1, side2; // lengths of the sides of a rectangular
double diagonal; // length of the diagonal
Scanner scan = new Scanner(System.in);
// Get the lengths of the sides as input

// Compute the length of the diagonal

// Print the result

}
```

3. Fill in the blanks in the following program to generate the random numbers and find your lucky number as described in the documentation.

```
// ************************************************
// PlayWithLuck.java
// To generate three random numbers and find your “lucky” number
// ************************************************
import java.util.Random;
public class PlayWithLuck
{
public static void main (String[] args){
Random generator = new Random();
int first, second, third;
int num;
// Generate first (a random integer between 24 and 68) using the
// nextInt method (with no parameter)

first = _____;

// Generate second (a random integer between 10 and 20) using the
// nextInt method with an integer parameter

second = _____;

// Generate third (a random integer between 25 and 40) using nextFloat

third = _____;

//Calculate the lucky number by the formula: (first-second)*third;
num =_____;
System.out.println ("Your lucky number is ”+num);
}
}
```