COP-2210 – Lab 3

Objective

Students will be able to develop Java programs involving various methods of classes in the Java class library, including methods for output formatting and string manipulation.

Guidelines

- The assignment is to be completed in pairs.
- Questions are based on content discussed in the Lecture and book readings.
- NetBeans is the IDE of choice.
- Students are expected to attend each lab session and actively participate in the lab activities.
- Lab should be completed and submitted by the end of the lab time. Extra time would be considered on a case by case analysis and last day to submit would be Friday.
- To submit, upload your lab solutions to the dropbox in Canvas.
- Make sure you include the information of the developers as a comment in the first lines of each program of the lab:

Student Name: _____   Student Name: _____
Panther ID: _____   Panther ID: _____
Week: _____
Section: _____

Lab Questions

1) Write a Java program that asks the user to enter a phrase with a word repeated 3 times in it and a String to replace those repeated words with. An example of the program output:

Enter a phrase with 3 words in it repeated: a dog, a second dog, and a third dog
Enter the word that is repeated: dog
Enter a string: nice cat

New Phrase: a nice cat, a second nice cat, and a third nice cat

2) Write a Java program that asks the user to enter a phrase with a word repeated 3 times in it and three different words to use as a replacement. An example of the program output:

Enter a phrase with 3 words in it repeated: my dog, your dog, our dog
Enter the word that is repeated: dog
Enter the replacement for the first occurrence: cat
Enter the replacement for the second occurrence: bird
Enter the replacement for the third occurrence: horse

New Phrase: my cat, your bird, our horse

3) Write a program that prompts the user for a value of x and then calculates

$$1 + x + \frac{x^2}{2} + \frac{x^3}{6} + \frac{x^4}{24}$$

(This is an approximation of e^x).

4) Write a program that computes the length of the hypotenuse of a right triangle. The program will prompt the user first to enter the lengths of the other two sides of the triangle. Round your output to one decimal place (use the *DecimalFormat* class).

Grading Rubric

Lab grade is 10 points (out of 1000 total course points). Question weights are as follows:

Question	Points
1	2 pts
2	3 pts
3	2 pts
4	3 pts

Answers will be graded based on correctness, completion, and organization.