CS: 113 Introduction to Object Oriented Programming (IOOP) Fall, 2022

Lab 9 (25 points) Due 10/12/2022

Submit your solutions to canvas. For programming assignments do not send the entire project. All I want are the files ending in .java Please make sure your name is included at the top of the source code. All five problems should be implemented in one .java file. **There will be no re-submission of work. There will be no exceptions. So, before you submit your work please ensure you have everything the way you want it.**

Problem 1 (5 points)

Complete the `namesDialog.java` program that was emailed to you. After the user enters the first name you need to add a dialog box to prompt and enter the middle name. Then add a dialog box to prompt and enter the last name. Don't forget to end your program with: `System.exit(0);` After the complete name is entered display a greeting with a `message dialog` that looks like this:

Problem 2 (5 points)

Use your code from Problem3 of Project1 as a basis for this problem. Modify your code to use a `JOptionPane.showInputDialog` panels to prompt the user for an input and output file name. Then read the file in a you did in Problem3 of Project1 and compute the statistical results as in Problem3 of Project1. Only this time output your results to an output file.

Problem 3 (5 points)

Using the features of the `JOptionPane` class implement a GUI based program that prompts the user for a positive integer number greater than 0, and less than or equal to 2^{32}-1 , and then displays whether the number is a prime number or not. You can assume the user will not enter a negative number, or a number greater than 2^{32}-1. Your solution should include a method that you create which accepts an integer as a parameter, and returns `true` if the integer parameter is a prime number, otherwise return `false`. Output your results using a `JOptionPane.showMessageDialog`. **DO NOT** cut

and paste code in from the internet. Come up with you own algorithm. Hopefully you can use the algorithm you created a previous lab.

Problem 4 (5 points)

Using the features of the `JOptionPane` class implement a GUI based program that prompts the user for a word, or group of words and indicate if what is entered is a palindrome or not. You can assume all input consists of upper case or lower-case letters only. You program should be case sensitive. `A` is not equal to `a`. You can also assume there is only one space between words. Output your results using a `JOptionPane.showMessageDialog`. **DO NOT** cut and paste code in from the internet.

Problem 5 (5 points)

Using the features of the `JOptionPane` class implement a GUI based program that prompts the user for a real number represented as a double. Your program should then indicate whether the number is a perfect square or not. .A perfect square is a number that can be obtained by squaring an integer number. You can assume the user will not enter a negative number. Output your results using a `JOptionPane.showMessageDialog`. **DO NOT** cut and paste code in from the internet. Come up with you own algorithm.