Lab 1 (Java Refresher)

CSC 172 (Data Structures and Algorithms)
Spring 2022
University of Rochester
Due Date: 01/23/2022 11:59PM & in-lab demo

Tasks

1. Implement a method `isAnagram` which takes two strings as input and decides if those strings are anagrams or not (returns true/false). An anagram is a word, phrase, or name formed by rearranging the letters of another, such as "cinema", formed from "iceman".

2. Implement a method `isRotation` which takes two strings as input and decides if one string is a rotation of the other (returns true/false). For example, "cdeab" is a rotation of "abcde".

3. Implement the `main` method to test the two methods.

Demo

After each task, show your output to your lab TAs. They will test your code and grade your work. Before you leave the lab, make sure your work is graded.

Submission and Demo

Hand in the source code from this lab at the appropriate location on the Blackboard system at `learn.rochester.edu`. You should hand in a single zip (compressed archive) `lab1.zip` containing your source code file Lab1.java and a README file, as described below.

- A plain text file named README that includes your contact information, your partner's name, a brief explanation of the lab (a one paragraph synopsis. Include information identifying what class and lab number your files represent.), and one sentence explaining the contents of any other files you hand in. Also, include the compile and run steps.

Grading:

Total Points: 10
5 points for each method implemented correctly.

Notes:

All labs are open book. You can get code snippets from the internet if you need to (make sure you cite those properly). But that is not the purpose. We want you to work together, think about an algorithm, and then implement it together with your partner (that sounds fun! isn't it?)

Special Notes:

Please read carefully:
Lab 1 is the only lab where demonstrating how your code works is mandatory.

Sample Test Cases

```
Input examples for isAnagram:
    "QweRty", "QweRtY" -- expected output: false
    "qwe_123_omorw3", "3123_owrmoq_we" -- expected output: true
    "^^^^&&123", "^^^^&&123" -- expected output: true
    "1111", "11111" -- expected output: false
Input examples for isRotation:
    "123yrewq", "yreqw123" -- expected output: false
    "0  1  2", "1  20  " -- expected output: true
    "^^^^&&123", "^^^^&&123" -- expected output: true
    "1111", "11111" -- expected output: false
```