CSCI-105 Introduction to Programming

Lab 6 - Tuesday

Instructions

Log onto cs.bridgewater.edu. Change your working directory to the **labs** directory in your repository. Create a subdirector (in labs) named **lab6**. Change your working directory to **lab6**. When complete, please push your code to GitHub.

Write a Java class named **StringPlay**. The class should contain a **main** method and 3 additional methods with the following signatures and behavior.

static int countLetters(String s)

> countLetters() takes a string as an argument and return the number of alphabet letters in the string.

static int countOccurrences(String s, char c)

> countOccurrences() takes a string and a character as arguments and return the number of times the character c is found in the string s.

static boolean isPalindrome(String s)

> isPalindrome() takes a string as an argument and returns true if the string is a palindrome and false otherwise.

The main method should repeatedly display the menu below, ask the user to enter a menu choice, and perform the menu item.

[1] count letters
[2] count number of occurrences of a letter
[3] determine if palindrome
[4] exit

If the user chooses 1, the program should ask the user to enter a string and read in the string. The program should then determine how many characters are in the string by calling **countLetters().** The program should store the value returned by **countLetters()** in a variable named **numLetters**. The program should print "**Number of letters:** ", followed by the value in the variable **numLetters**.

If the user chooses 2, the program should ask the user to enter a string and then read in the string from the keyboard. The program should then ask the user to enter a character and read

in the character from the keyboard. The program should then determine how many occurrences of the character are in the string by calling **countOccurrences()**. The value returned by **countOccurrences()** should be stored in a variable named **numOccurrences**. The program should print to the screen "**Number of occurrences:** ", followed by the value in the variable named **numOccurrences**.

If the user chooses 3, the program should ask the user to enter a string and read in the string from the keyboard. The program should then determine if the string is a palindrome by calling **isPalindrome()**. The value returned by **isPalindrome()** should be stored in a variable named **foundPalindrome**. The program should print to the screen "**Found palindrome:** " followed by the value in the variable **foundPalindrome**.

If the user chooses 4, the program should terminate.