

## CSCI-105 Introduction to Programming

### Lab 6 - Wednesday

#### 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 **StringPlay2**. The class should contain a **main** method and 3 additional methods with the following signatures and behavior.

#### **static int countDigits(String s)**

**countDigits()** takes a string as an argument and return the number of digits in the string.

#### **static boolean containsCat (String s)**

**containsCat()** takes a string as an argument and uses a for-loop to determine if the word "cat" is a substring of the string passed into the method. If it is, the method returns true. Otherwise, the method returns false.

#### **static int substringCount (String s, String t)**

**substringCount()** takes two strings as arguments and returns the number of times that the second string is found as a substring of the first string.

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

**[1] count digits**

**[2] contains "cat"**

**[3] count instances of substring**

**[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 digits are in the string by calling **countDigits()**. The program should store the value returned by **countDigits()** in a variable named **numDigits**. The program should print "**Number of digits:** ", followed by the value in the variable **numDigits**.

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 determine if the string contains "cat" as a substring by calling **containsCat()**. The value returned by **containsCat()** should be stored in a

variable named **hasCat**. The program should print to the screen "**Contains cat:** ", followed by the value in the variable named **hasCat**.

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 ask the user to enter in a second string and read the string in from the keyboard. The program should then determine how many times the second string appears as a substring in the first string by calling **substringCount()**. The value returned by **substringCount()** should be stored in a variable named **numInstances**. The program should print to the screen "**Number of instances:** ", followed by the value in the variable **numInstances**.

If the user chooses 4, the program should terminate.