Langara College

# Department of Computing Science & Information Systems

# CPSC1150 – Program Design

###### **Lab6: More Loops**

**Objective:**

* Use the keywords break and continue
* Use loops and selections to solve a complicated problem

**Instructions [35 marks]:**

1. Create a folder named **Lab6** to store all the files from this lab
2. Create an external documentation file (filename: **Lab6Ext.docx**) to store the summary, algorithm(s), and sample input and output for each problem.
3. All your programs must have good internal and external documentations

**Problem 1 [5 marks] All vowels (filename: AllVowels.java)**

Design an algorithm and then write a program that randomly generates 4 vowels (a, e, i, o, u) all in lowercases. If any time the generated letter is not a vowel, the program re-generates a new letter. The vowels may be repeated. You must use the keyword **break** or **continue** in your loop.

**Problem 2 [30 marks] Displaying a calendar (filename: DisplayCalendar.java)**

Design an algorithm and then write a program that prompts the user to enter a year and the first day of the year, and displays the calendar for the year. For example, if the user enters year **2019**, and **2** for Tuesday, January 1, 2019, your program should display the calendar for the 12 months in the year, as follows:

Enter a year: 2019

Enter the first day of the year: 2

January 2019

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Sun Mon Tue Wed Thu Fri Sat

1 2 3 4 5

6 7 8 9 10 11 12

13 14 15 16 17 18 19

20 21 22 23 24 25 26

27 28 29 30 31

February 2019

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Sun Mon Tue Wed Thu Fri Sat

1 2

3 4 5 6 7 8 9

10 11 12 13 14 15 16

17 18 19 20 21 22 23

24 25 26 27 28

……

**What to hand in**

**Zip the folder** which contains the documentation file and all the Java source files for this lab and **submit the zipped folder to BrightSpace**.

**When to hand in**

By 10:29 am, Monday, Mar. 1, 2021