

CSCI-101 Programming 1

Lab 7

INSTRUCTIONS

Log into cs.bridgewater.edu and change your working directory to your **labs** directory in your repository. Make a directory named **lab7** and change your working directory to **lab7**. Inside the **lab7** directory create a file named **Lab7.java**. Inside the **Lab7.java** file write a program that satisfies the following:

1. Add a method named **printMenu** that prints the following to the screen.

- 1) Modify array
- 2) Print array
- 3) Compute sum
- 4) Exit

Choose a menu option:

2. Add a method named **modifyArray**. The method has one parameters named **arr** that holds a reference to an array of integers.

The method asks the user to enter two integers: the first specifies a value to be stored in the array, and the second specifies the index of the array at which the value will be stored.

The method then reads the integers entered by the user into variables named **val** and **index**, respectively.

If **index** is a valid index of **arr** then the method stores the integer in **val** in the array at the index specified in **index**.

3. Add a method named **printArray**. The method has a single parameter named **arr** that holds a reference to an array of integers. The method print the elements in the array to the screen, all on a single line with spaces between them.
4. Add a method named **computeSum**. The method has a single parameter named **arr** that holds a reference to an array of integers. The method computes the sum of the integers in **arr** and prints the sum to the screen.
5. In the **main** method do the following.
 1. Create a Scanner that can read data from the keyboard.
 2. Declare an array of integers named **array1** whose length is 10.
 3. Add a continuous loop that does the following:
 - a. Print the menu by calling **printMenu**
 - b. Use the Scanner to read the user's choice and store their choice in a variable named **choice**.
 - c. Use a switch statement to performs one of the following actions based on the user's choice
 - If the user chooses 1, invoke **modifyArray** passing to the method **array1**.
 - If the user chooses 2, invoke **printArray** passing to the method **array1**.
 - If the user chooses 3, invoke **computeSum** passing to the method **array1**.
 - If the user chooses 4, terminate the program.
 - Otherwise print "Invalid option" to the screen.