

# CSCI-101 Programming 1

## Lab 7, Part a

### INSTRUCTIONS

- Log into [cs.bridgewater.edu](https://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 **Lab7a.java**.

Inside the **Lab7a.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 two parameters. The first parameter is named **arr** and holds a reference to an array of integers and the second parameter is named **kb** and holds a reference to a Scanner.

The method asks the user for an index and a value and reads the values entered by the user into variables named **idx** and **val**, respectively.

If **idx** is a valid index in **arr** then the method sets the element at the index stored in **idx** to the value stored in **val**.

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. Read a user's choice from the keyboard
    - c. Performs one of the following actions based on the user's choice
      - If the user chooses 1, invoke **modifyArray** passing to the method **array1** and **kb**.
      - 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.