**Name:**

**Advanced Programming in Java**

**Lab Exercise 11/6/2024**

In this lab you will work with arrays. When your programs are complete, submit your source code.

1. Create an application that evaluates a polynomial. The coefficients should be stored in an array where the index is the coefficient of the polynomial. For example,  you would have an array poly that would contain:

poly[0] = 6

poly[1] = -7

poly[2] = 4

poly[3] = 3

The program should ask the user for the order of the polynomial and the coefficients. The program should ask the user for the value of x to evaluate. The program should print out a table of values over a user specified range.

1. Create a Java application that creates and array of integer values of a user specified size. You should then write a fillArray method to fill the array with random integers in the range of 1 to 1000. Add a printArray method to your application that prints out the values 8 values per line.
2. Modify the application in problem 2 to add two methods; one that returns the largest value and one that returns the smallest number.
3. In a random walk problem, a person is placed in the center of a 7 meter long bridge. Each step the person moves 1 meter forward or backward at random. Create a RandomWalk application that determines how many steps the person will walk before taking a step off the bridge. Have the application average 50 trials, and display the average and the greatest number of steps.