Program 7 – Testing

100 points

IMPORTANT
You must write your code while carefully following the "IT 179 Program Grading Guidelines" described in the file **posted with Program 1**.

Set-Up
Create a new Java project named: **`P7`**. Next, inside the created Java project **`P7`**, create a Java package.

Objective: Practice program testing with JUnit

Important
Please read Sections 3.1 to 3.4 (pages 121-132 in the 3rd Edition) and watch the videos posted in the folder **Week 7** before you start working on this assignment.

Question 1 (30 points)

Write a search method `search(.....)` with four parameters: the search array, the target, the start subscript, and the finish subscript. The last two parameters indicate the part of the array that should be searched. If the target is found, the method returns the index of the first occurrence of the target in the array. If the target is not found, the method returns -1. Your method should catch or throw exceptions where warranted.

Question 2 (30 points)

Listing 3.1 of your textbook (pages 130-131) shows a JUnit test harness for an array search method (ArraySearch.search) that returns the location of the first occurrence of a target value (the second parameter) in an array (the first parameter) or −1 if the target is not found. Modify the test(s) in the listing to verify a method that finds **the last occurrence** of a target element in an array.

Question 3 (40 points)

Consider the method **`findLargest()`** defined as follows: 2 Class

```
/**
* Search an array to find the first occurrence of the
* largest element
* @param x Array to search
* @return The subscript of the first occurrence of the
* largest element
* @throws NullPointerException if x is null
*/
public static int findLargest(int[] x) {…}
```

Write the JUnit test harness for the method **`findLargest()`.**

To Be Submitted

Please zip your Java project in a file called P7.zip and submit to ReggieNet before the due date.