Lab 15

Instructions: Complete the steps below. Be sure to show your code to one of the lab TAs before you leave, so that you can receive credit for this lab. You must also upload a copy of all your source code (.java) files to the link on Blackboard by **11:59 PM on Monday October 26, 2020 for L01, L02, L03, L05 and by 11:59 PM on Thursday October 22, 2020 for L06, L07, L08 and L09**..

1. Write the following method that merges two sorted lists into a new sorted lists :

   $$public\ static\ int[]\ merge(int[]\ list1, int[]\ list2)$$

   Write a test program that prompts the user to enter two sorted lists and displays the merged list. Here is a sample run. Note the first number in the input indicates the number of the elements in the list. This number is not the part of the list.

   Enter list1 size and contents: 5 1 5 16 61 111
   Enter list2 size and contents: 4 2 4 5 6
   List1 is 1 5 16 61 111
   List2 is 2 4 5 6
   The merged list is 1 2 4 5 5 6 16 61 111

2. Write a method reverse, that reverses the array passed in the argument and returns this array. Write a test program that prompts the user to enter 10 numbers, invokes the method to reverse the numbers, and displays the numbers.
   NOTE: Please do not create a temporary array in the reverse method. Use the original array (array in the argument.) and reverse it.

Grading Guidelines: This lab is graded on a scale of 0-6 points, assigned as follows:

- **0 points:** Student is absent or does not appear to have completed any work for the lab
- **2 point (2*1):** Student has written the program, but it has errors.
- **4 points (2*2):** Student has written the program it compiles without error, but it does not produce the correct output.
- **6 points (2*3):** Student has written the program and it compiles and runs correctly, without any errors.