Assignment 13

1. Suppose you are given a square matrix. Create arrays of its anti-diagonals using Java.
   1. Example:

Matrix: 1 2 4

3 7 9

8 5 6

Arrays should: [1]

[2 3]

[4 7 8]

[9 5]

[6]

1. Replace every element of a given array with the next greatest element.

Example: i/p array {23, 2, 100, 45, -5, 7, -2, 9} o/p array {100, 100, 100, 45, 9, 9, 9, 9}

1. Write a program to get the difference between the largest and the smallest numbers.
2. Find the number of even and odd integers in a given array of integers.
3. Print all the Leaders of an Array. [An element is leader if it is greater than all the elements to its right side, e.g. if array is given as {20, 19, 34, 53, 25, 0, 11} then output should be {53, 25, 11}.
4. Remove the duplicate elements of a given array {12, 5, 15, 12, 5, 22, 4, 15} and return the new length of the updated array.
5. Find the majority element from a given array of integers containing duplicates.

Majority element: A majority element is an element that appears more than n/2 times where n is the size of the array.