Batch-2 -JAVA LAB WEEK-2 (8/2/2023) Exercises

1) Write a program that reads in ten numbers and displays distinct numbers (i.e., if a number appears multiple times, it is displayed only once). (Hint: Read a number and store it to an array if it is new. If the number is already in the array, ignore it.) After the input, the array contains the distinct numbers.

2) Write a program that generates a 6-by-6 two-dimensional matrix filled with 0s and 1s, displays the matrix, and checks if every row and every column have an even number of 1s.

3) Write a method that returns the index of the smallest element in an array of integers. If the number of such elements is greater than 1, return the smallest index. Use the following header:

   public static int indexOfSmallestElement(double[] array)

4) Write a method to sort a two-dimensional array
   using the following header:
   public static void sort(int m[][])
   The method performs a primary sort on rows and a secondary sort on columns.
   For example, the following array
   {{4, 2},{1, 7},{4, 5},{1, 2},{1, 1},{4, 1}}
   will be sorted to
   {{1, 1},{1, 2},{1, 7},{4, 1},{4, 2},{4, 5}}.

5) Write the following method that tests whether a two-dimensional array has four consecutive numbers of the same value, either horizontally, vertically, or diagonally.

   public static boolean isConsecutiveFour(int[][] values)