//Ayush Tripathi Amity University Adani GET Test A2305319123

import java.util.Scanner;

import java.util.Arrays;

import java.util.Random;

public class Main{

public static int[][] createRandom2DArray(int numberOfRows, int numberOfColumns) {

int[][] array = new int[numberOfRows][numberOfColumns];

Random rand = new Random();

for (int i = 0; i < numberOfRows; i++) {

for (int j = 0; j < numberOfColumns; j++) {

array[i][j] = rand.nextInt(101);

}

}

return array;

}

public static int[][] sort2DArrayByColumn(int[][] array, int columnIndex) {

Arrays.sort(array, (a, b) -> a[columnIndex] - b[columnIndex]);

return array;

}

public static void main(String[] args) {

int numberOfRows = 3;

int numberOfColumns = 4;

//For user Defined Column and Row size uncomment below code

// Scanner sc= new Scanner(System.in);

// System.out.println("Enter numberOfRows ");

// int numberOfRows= sc.nextInt();

// System.out.println("Enter numberOfColumns ");

// int numberOfColumns= sc.nextInt();

int columnIndex = 2;

int[][] array = createRandom2DArray(numberOfRows, numberOfColumns);

System.out.println("Original array:");

for (int i = 0; i < numberOfRows; i++) {

for (int j = 0; j < numberOfColumns; j++) {

System.out.print(array[i][j] + " ");

}

System.out.println();

}

array = sort2DArrayByColumn(array, columnIndex);

System.out.println("Sorted array:");

for (int i = 0; i < numberOfRows; i++) {

for (int j = 0; j < numberOfColumns; j++) {

System.out.print(array[i][j] + " ");

}

System.out.println();

}

}

}