BIA5001	Introduction to Statistical Software Languages	
Dr. Nihad Al-Juboori	Lab 3	
Student ID:	Student Name:	

A – Single Dimensional list questions: Q1 and Q2

Q1:

Write a function that returns the index of the smallest and the biggest element in an array of integers. If there are more than one number having the same value (smallest or biggest), return the smallest always.

Write test program that prompts the user to enter 10 numbers, invokes this function to return the index of the smallest and the biggest elements, and display the indices.

Part 1: Requirements Specification

The program must satisfy the following requirements:

- It must ask the user to enter 10 numbers.
- Call a function named "indexOfElements" that finds the index of the smallest and biggest numbers.

Example:
Input numbers: 3 2 0 3 5 7 8 1 0 8
The smallest number is **0** and its index is **2**
The biggest number is **8** and its index is **6**

Part 2: Coding

Submit the following items:

1. Complete this Microsoft Word file and submit it on BB.
2. Send the source code and snip from your run.

Note: you must submit the assignment regardless of whether it is complete or incomplete, correct or incorrect.

Q2:

Write a program that reads integers between 1 and 100 and counts the occurrence of each. Assume the inputs ends with 0

Here is a sample run:

1 occurs 2 times
2 occurs 3 times
3 occurs 2 times
4 occurs 6 times
40 occurs 1 time

Part 1: Requirements Specification

The program must satisfy the following requirements:

- In the main function, ask the user to enter integer numbers between 1 and 100.
- If the user inputs 0 then the program will stop taking new numbers and start running.

Part 2: Coding

Submit the following items:

1. Complete this Microsoft Word file and submit it on BB.
2. Send the source code and snip from your run.

Note: you must submit the assignment regardless of whether it complete or incomplete, correct or incorrect.

B – Two-Dimensional list questions: Q3 and Q4

Q3:

Write a program that will initialize a list of two dimensions and perform the following actions:

1- sum the elements of the columns.
2- Sum the elements of the rows
3- Find the largest value of the summations for the rows and columns.
4- Print the list and print the maximum value in rows and the index of the row and the maximum value in columns and the index of the column.

Part 1: Requirements Specification

The program must satisfy the following requirements:

- It must ask the user to enter elements of the array.
- Call a function to find the summation of the rows and columns.
- Print the result.

Example:
For the following 3 X 3 list:

1	2	3
4	5	6
7	8	9

The program will print:
The maximum value in rows is 24 in row 2
The maximum value in columns is 18 in column 2

Part 2: Coding

Submit the following items:

1. Complete this Microsoft Word file and submit it on BB.
2. Send the source code and snip from your run.

Note: you must submit the assignment regardless of whether it is complete or incomplete, correct, or incorrect.

Q2:

Write a program that will add two matrices that the user will input, assume these two matrices are of the same size.

Part 1: Requirements Specification

The program must satisfy the following requirements:

- In the main method, ask the user to enter the two matrices.
- Add the two matrices in a separate function.

**Complete part 2.

Note: You are not required to complete the Analysis and Design sections.

Part 2: Coding

Submit the following items:

1. Complete this Microsoft Word file and submit it on BB.
2. Send the source code and snip from your run.

Note: you must submit the assignment regardless of whether it is complete or incomplete, correct, or incorrect.