Alexandria University
Faculty of Engineering
Computer and Systems Engineering
Department

CS121: Computer Programming 1
Assigned: Saturday, October 26th, 2024
Due: Saturday, November 2nd, 2024

Lab 3
Loops - Arrays

Lab Objectives

1. Getting Familiar with C programming language.
2. Practice Loops Problems.

Problem Set

1. Guessing Game
   Write a program where the user has to guess a number between 1 and 10. The program should ask the user to guess repeatedly until they get the correct answer using a `do-while` loop, so define (set a constant) of a correct number of your choice then start the game with the user.

2. Read job titles and salary ranges and store the jobs and salary ranges into two arrays, the maximum number of jobs that can be processed by this program is 20. Store job titles in a one-dimensional string type array jobs [20]. Store low salary and high salary in a two-dimensional double type array salaryRanges[20][2]. • Calculate the average salary for each job using averageSalary = (lowSalary + highSalary)/2.0, store the average salary in another one-dimensional array avgSalary[20]. • Display the job title, low salary, high salary and average salary on the screen. • Identify and display the lowest and highest average salary from the array avgSalary[ ].

3. Given two arrays of integers, print the union array and the intersection array.
   Notes:
   • Assume that the input arrays will consist of duplicates.
   • Your program should read the input arrays from the user.
   • You can assume that the input arrays will have a size ≤ 20.
   • You should eliminate the duplicates from the output.

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<u>For example:</u>

If the input is:

- 8
- 12 32 14 35 89 16 120 14
- 9
- 9 9 12 8 17 120 35 12 36

Your output should look like:

- Array1: 12, 32, 14, 35, 89, 16, 120
- Array2: 9, 12, 8, 17, 120, 35, 36
- Union: 12, 32, 14, 35, 89, 16, 120, 9, 8, 17, 36
- Intersection: 12, 35, 120

NOTES

1. You are encouraged to ask any questions on MS teams, or in person.
2. Cheating will be severely penalized (for both parties). So, it is better to deliver nothing than deliver a copy!.
3. You are not allowed to use any AI Tool.
4. Submission details will be announced on MS Teams.

Good Luck