CSE108 – Computer Programming Lab.

Lab 6

One Dimensional Arrays

Due at 10am.

Hand in: A student with number 20180000001 should hand in a zip file named 20180000001.zip for this lab.

Part 1. Write a C program that takes a list of integers from the user (the end of input is defined by a sentinel value - in this case –100). You are expected to write a function to read the inputs and return the results in an array.

Your program further labels these numbers in another function returning the results in a second array. The second array shows the labels as 'o' or 'e' indicating the corresponding number is odd or even, respectively.

Finally, yet in another function, the results are printed where each line shows the number and its calculated label.

```
Example Output:
   10
   33
   -100
   10 e
   33 o
```

Part 2. Assume that we have the following table (an example) in a text file.

```
3
19 s 0.0 f
42 e 9800.0 g
30 d 1000.0 f
```

Here the first entry indicates the number of rows in the table. The following lines hold a row of the table: age (integer), occupation (a character – s for student, e for engineer, etc.), salary (float), and favorite team (a character).

Write a program first to read this table in 4 separate arrays. Then, ask the user to select a team. If the team has fans in the list, calculate and show their average salaries. If the selected team is not in the file, display something like "There are no fans of b in the database!".

```
Example Output 1:
   Please select a team: f
   Average salaries of fans of f: 500.0
Example Output 2:
   Please select a team: b
   There are no fans of b in the database!
```

General Rules:

1. You will have two hours to provide a solution to the given problem set.
2. You will be able to hand in your solutions via Teams in the next two hours. The submission will be closed exactly at 10am.
3. There will be an interview session immediately after the submission deadline. Starting at 10am, you will be randomly invited to attend a meeting by a TA to demonstrate your solution and answer any questions asked by the TA.
4. You must be available until 1pm to respond to the demo invitation whenever you receive it. You will have 3 minutes after you are called via Teams. If you do not answer/appear in 3 minutes, you will miss you interview.
5. If you miss your interview or are unable to give satisfactory answers to the questions, you will receive a zero for that lab even if you have submitted your solution.
6. If you have not submitted a solution in time, you will not be invited for the interview and receive zero for that lab.
7. Due to time constraints, some students may not be invited to an interview. In that case, their solutions will be graded offline.
8. Unless you aren't declared for a specific prototype, you may use arbitrary but proper function and variable names that evoke its functionality.
9. The solution must be developed on given version of OS and must be compiled with GCC compiler, any problem which rises due to using another OS or compiler won't be tolerated.
10. Note that if any part of your program is not working as expected, then you can get zero from the related part, even it is working partially.
11. Zip your solution file before uploading it to MS Teams. The zip file must contain the C file with your solution and screenshots of the valid outputs of the program.