CT103: Week 4 Lab Session (10/10/2023)

Note: This assignment will count towards your final grade.

*Make sure you submit your solution by following the "**Submission Instructions**" at the end of this document. You have **until midnight tonight to submit your solution on Canvas**.*
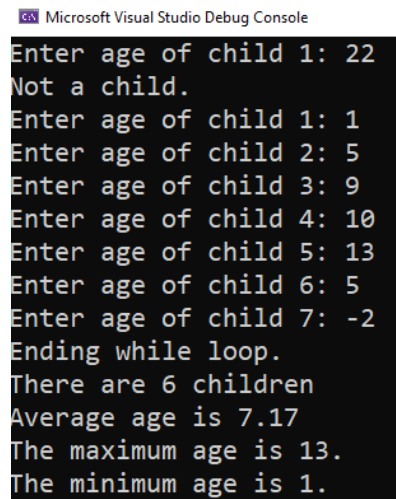
Please make sure you **write comments** explaining what your code does. Start your C program with a **comment stating your; Name, Student ID and Date**.

Write a C program that does the following:

1. Read in the age of any number of children in a family using a while loop. The user should be able to escape the while loop by entering an age <0. **(20 marks)**

2. Count how many children there are. Print result to the screen. **(20 marks)**

3. Calculate the average age of the children. Print this to the screen at the end. When calculating the average age, **decimal point is important**, e.g. age 1 = 10, age 2 =11, average = 10.5. **(20 marks)**

4. Keep track of the oldest and youngest child. Print the ages of each to the screen at the end. **(20 marks)**

5. If an age entered is 18 or greater. Print a message that the age entered is not for a child. Do not count this age when determining the average age, the maximum age or the number of children in the family. **(20 marks)**

Your program should output something similar to the following screenshot. You must **enter different values** than those in the screenshot on the right.

This week, you must **upload a single screenshot** with your solution showing your program working for each of the requirements in tasks 1 – 5 above.

```
Microsoft Visual Studio Debug Console
Enter age of child 1: 22
Not a child.
Enter age of child 1: 1
Enter age of child 2: 5
Enter age of child 3: 9
Enter age of child 4: 10
Enter age of child 5: 13
Enter age of child 6: 5
Enter age of child 7: -2
Ending while loop.
There are 6 children
Average age is 7.17
The maximum age is 13.
The minimum age is 1.
```

Plagiarism Notice:

A definition of plagiarism is passing off the work of another personas one's own.

You are allowed to ask the lab tutors for help, collaborate with your classmates and review online and print resources for high-level problem solving and background research. You are each expected to complete this assignment individually. This means that every line of code and comment in your submission should be written by you alone. Please see the University of Galway Code of Practice for Dealing with Plagiarism for further information on plagiarism:
https://www.universityofgalway.ie/media/registrar/policiesmay2023/QA220-Academic-Integrity-Policy-v2.0-Sept-2023.pdf

Plagiarism is a serious academic offence and may lead to a loss of some or all marks and/or disciplinary proceedings if it is detected in any of your submissions. Students who facilitate others to copy their work are also subject to plagiarism sanctions (including loss of marks), so you should not share your assignment solutions with classmates.

Submission Instructions:

Please do the following to submit your solutions to the assignment.

- Copy and paste your code into a word document labelled 'AssignmentX_YOURNAME_ID.doc', e.g. 'Assignment3_JoeBloggs_123456789.doc'.

- Make sure to **include screenshots of your code working** in the .doc file. Use: 'Windows' + 'Shift' + 'S' on your keyboard. On a Mac, you should use the keys: 'shift' + 'command' + '3' or 'shift' + 'command' + '4'.

- Add both: **your .c program** and **your .doc** files to a folder called 'AssignmentX_YOURNAME_ID_Submission'.

- Zip the folder up and **submit the .zip file on Canvas** under CT103 Assessments. To zip the folder, right click and press 'Send To' then 'Compressed (zipped) folder'. On Mac, right click the folder and press 'Compress'.

- If for some reason you still cannot access Canvas. Send your .zip folder to the lab instructors by email. They will be available for the duration of the lab.