# TU856/1 & TU858/1 Programming Assignment #1

Due Date: Sunday, November 28th, 2021 (11.59pm)

## Requirements:

You are required to develop a program in C that will simulate a mathematics quiz game. The game will include various features, each of which must be incorporated into your program.

Your program should be menu-driven and must display a main menu when run. The menu should include the following options:

1. Enter the number of questions to be asked for this round of the quiz (maximum of 5 questions allowed).
2. Start and play quiz
3. Display the number of questions that were answered (i) correctly and (ii) incorrectly for this round.
4. Exit Program

## Features to include:

1. Your program should continually run and re-display the main menu after each option has completed, i.e., start over again. Only when the customer enters option 4 (i.e., Exit Program), should your program terminate.

2. For option 2, your program should display a simple mathematical question and ask the user to enter the answer. After the user has entered their answer, your program should display the correct answer beside the user's answer. Your program should then ask the next question (if there are more to ask) and continue this sequence.

   For example:

   Question 1: 9 / 3 + 6 = ?
   6
   You entered: 6 - Wrong !! The correct answer: 9

3. Option 3 should only be allowed to be selected after the user selects option 2 (i.e., plays the quiz). If the user starts a new quiz, option 3 should be reset from the previous round (i.e., Do not count correct & incorrect answers for all rounds).

4. Try to take account of input errors by the user and display appropriate error messages.

## Submission details:

1. Submit your program (.c source code file only) using the assignment listed in the Programming module in Brightspace. This must be submitted on or before Sunday, November 28th, 2021 (11.59pm).
2. Marks will be awarded for well-written code (comments, indentation, whitespace, good use of brackets, etc.,).

**Note:** You are required to demo your program in the lab session within 3 weeks following submission. Failure to demo your program will result in a zero mark being recorded.

**Late submissions:** Late submissions will incur a progressive penalty of 10% each day late, i.e., 1 day late loses 10%, 2 days late loses 20%, etc.,

**No submissions accepted after 1 week and a zero-mark awarded.**

**NB** - This is an individual assignment and **NOT** a group one. Do your own work and do not plagiarise your code. Anti-plagiarism software will be used to randomly check submissions. Any submitted code suspected of having been plagiarised will be brought to the attention of the module examiners for specialised checks under the TU Dublin general assessment regulations.

See marking scheme (rubric) below.

## Marking scheme (Rubric):

Table 1 shows the marks allocated for this assignment.

| | | | |
|---|---|---|---|
| Functionality (Requirements). Code should meet the highest professional standards | Option 1 (No. of questions entered for quiz) | 5% | |
| | Option 2 (Maths quiz operates correctly) | 35% | |
| | Option 3 (Display number of questions answered correctly & incorrectly for **each round**) | 20% | |
| | Option 4 (Program ends, i.e. , graceful termination) | 5% | |
| Error checking (Validation) Validate program input, etc., | | 15% | |
| | | Sub Total: | **80%** |
| Commenting | Program Description, Author, Date | 5% | |
| | Good comments throughout code body | 10% | |
| Indentation | Correct and consistent indentation throughout code body | 5% | |
| | | Sub Total: | **20%** |

*Table 1: Marking scheme (Rubric)*