Task 5 - Lab: Debugging

Summary:

Effective use of the debugger is essential for isolating and repairing code errors within a non-trivial project of source code. Ideally you should be comfortable with using Visual Studio to compile and run a project. You should also be able to create a break point, step in/over/out, and inspect the value of variables while debugging a running program.

In this lab you have been provided some basic code. Ideally you will learn from the code, but there are also some questions in the code that you must answer, and the debugging tools will help you to demonstrate your answers.

Output: Lab Report (document, upload as pdf to Canvas), updated C++ code.

You will write a simple lab report that contains your answers to questions in the source code, and any observations or evidence notes to support your answers.

What you need to do:

1. **Download the Code.** There is a single file of C++ code. There may be additional files to help. Download the code, read the header comments. Make sure you can compile and run the code in your IDE that supports debugging.

2. **Create a simple report.** Create a lab report document that will contain your notes about what you have done for this lab, and your answers to questions.
   - Include your name, student id, the unit code, the task number and the date at the start of the report.
   - We suggest using MS Word this time for easy image inclusion, but you could use markdown with images if you want a new challenge or prefer to do that.

3. **Read Code, Tweak, Inspect, Write Notes and Answer Questions:**
   - Go through each #TODO question in the code (numbered), read the comments, follow the instructions.
   - Change the Boolean “false” values to “true” for each “if” section.
   - Uncomment particular lines if they are relevant to what you are trying to do.
   - In your lab report, clearly state your answer to each question.
   - There are some optional extra questions you might want to answer as well.
   - You can use screenshot images (suitably cropped) as evidence for key points, particularly when you are inspecting variables.

4. **Upload to canvas, show your tutor:** When your repository is ready (files you have created for this lab are saved and uploaded), upload your report to canvas and show your tutor.

Recommendations:

- We encourage you to discuss your answers with other students. Of course, your report and final code must have your unique work, but sharing ideas is a very effective way to consolidate what you learn.
- Keep it simple. This lab is really just about making sure you are okay with inspecting variables with an IDE while also helping those with less experience with some more C++ code examples that will help with later work.