ENGG1003 - Lab 1

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Welcome to the ENGG1003 Lab!

Being the first week of semester we're mostly here to find our feet so this lab is a mix of admin and programming.

1 Admin Tasks

1. Learn how to perform the attendance check-in
   - Only for labs **on campus**.
   - If in doubt, ask the demonstrator! They have the ability to force a check-in and confirm that a check-in was successful.
2. Join the ENGG1003 Discord server: `https://discord.gg/sfgpR4kMbN`
   - If you haven't used Discord before your demonstrator can walk you through the process of signing up and installing a Discord client.
   - Set your server nickname to your name as it appears in Blackboard.
   - Send your demonstrator a direct message with your student number (or a photo of your student card) for verification purposes. They will then add you to the `@students` role so you can see all the student channels.
     - Please be patient, there are a lot of you!
3. Install a Zoom client and make sure you can log in
   - Hopefully you've done this already for the lecture, otherwise now is the time to catch up!
4. Subscribe to the ENGG1003 YouTube channel
   - Lectures will be streamed on both Zoom and YouTube, but subscribing on YouTube will give you a notification when lectures start: `https://www.youtube.com/channel/UCU0BR2_STrZjttnYVdI-r6Q`
5. Access (or download) the textbook
   - Available for FREE to read online or download as PDF or EPUB: `https://link.springer.com/book/10.1007%2F978-3-030-16877-3`

2 Programming Tasks

1. Install PyCharm
   - Download from: `https://www.jetbrains.com/pycharm/download/`
   - Watch the installation video, `pycharm introduction.mp4`, on Blackboard under `Course Materials > Week 1`.
   - If you can't get this working on your laptop please get help from a demonstrator **this week**.
2. Create a new PyCharm project as-per the video. Ensure that you can run the template code without error
3. Delete the template code (select all and delete in the editor window, don't delete the file)
4. Read through Section 1.2 of the textbook, executing the lines of code as you go
   (a) Code in the textbook is in image format but there are "GitHub" links to code files. `ball.py` is here: `https://github.com/slgit/prog4comp_2/blob/master/py36-src/ball.py`
   (b) Run the script, observing the output

(c) Continue reading from 1.2.2, executing each line of code (eg: `v0 = 5`) into the `Pythong Console` and observe the behaviour of the console. Note how you can run code as a script or run individual lines in the console.

5. From Section 1.9 complete Exercise 1.1: Error Messages
6. Complete Exercises 1.2
   - There is no template code for this one. Copy the *style* of `ball.py` as:
     (a) Variable *initialisations* (in this case `L`)
     (b) Implementation of the equation (`V = L*L*L` or `V=L**3` (`**` means "to the power of"))
     (c) A `print()` statement to print the result to the Python Console
7. Complete Exercise 1.3