School of Artificial Intelligence and Advanced Computing
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# DTS202TC Foundation of Parallel Computing

Lab 1: C Programming Basics

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## Task 1, Setup Virtual Machine

Download the latest VirtualBox if you are using your own laptop. The VirtualBox software should be already installed if you are using the university lab PC.

Once you have VirtualBox installed, download the Linux OVF image file from Box. You can import the Linux OVF by following this tutorial online.

Open the terminal on the virtual machine or ssh into the virtual machine (username: dts, password: dts202), verify the GCC compiler can be executed correctly.

```
gcc --version
```

Note, if you are using M1/M2 Mac computers, use Parallel Desktop (none free) instead of VirtualBox, use it at your own risk. Alternatively, you can use native gcc compiler for exercises, make sure all code runs in the Ubuntu environment before submitting your assessments.

## Task 2, Set up IDE (Optional, choose your preferred IDE)

Jetbrains Clion is a non-free application, however it provides free educational licenses for students and teachers, please apply the license using your XJTLU email (https://www.jetbrains.com/community/education/#students).

## Task 3, Basic C Programming

Once you have your environment setup, please complete the following programming task:

```
Write a C program to count the number of characters and words in a file in CLion. Upload code
  to virtual machine. The program should be able to compiled and run by:

1. make
2. ./wc path_to_text.txt
```

## Task 4, Reflection

What challenge did you face and how did you overcome it?