COMP1917: 01_Introduction

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Why C?

- good example of an imperative language
- many libraries and resources
- fast compilers
- provides low level access to machine
- widely used for writing operating systems and compilers as well as industrial and scientific applications
Getting Started: Navigating UNIX

- **ls**: list the items in the current directory (folder)
  - `ls`

- **mkdir**: make a directory
  - `mkdir cs1917`

- **cd**: change directory
  - `cd cs1917`

- **cd ..**: change into the previous directory
  - `cd ..`

- **pwd**: show the current path
  - `pwd`

- Tab complete :)
Getting Started: Choosing a Text Editor

There are many options for environments wherein we can write our code.

- **Graphical based** (look more like Word or Pages, visual, intuitive): gedit, gvim
- **Entirely text-based** (faster to load especially over an internet connection): pico, nano
- **Have shortcuts** (steeper learning curve, but convenient in the long term): vi, vim, gvim, emacs

I use vim.

I recommend gedit as an easy starting point.
Getting Started: Compiling a C Program

- To create a C program from the terminal:
  gedit hello.c &
- Once the code is written and saved → compile it.
  gcc hello.c
- Run the program.
  ./a.out
Getting Started: Compiling a C Program

- Compiling:
  
  ```
  gcc hello.c
  ```

- To be told about all warnings and to treat them like errors:
  
  ```
  gcc -Wall -Werror hello.c
  ```

- To put our program in a file other than ‘a.out’:
  
  ```
  gcc -Wall -Werror -o helloProgram hello.c
  ./helloProgram
  ```
Getting Started: Structure of a C Program

```
#include <stdio.h>

int main(int argc, char * argv[]) {

    return 0;
}
```
Getting Started: Hello World

```c
#include <stdio.h>

int main(int argc, char * argv[]) {

    // Print out the phrase "Hello World"
    printf("Hello World\n");

    return 0;
}
```
Try It Yourself

- Don’t forget to do Lab 1: https://webcms3.cse.unsw.edu.au/COMP1917/16s2/resources/4373
- Keep an eye out on the website for next week’s tutorial and lab exercises.