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

```c
#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.