Lecture 2: Intro to C

- Admin stuff
- Why C?
- Hello world example (hello.c)
- Compilation process
- C pre-processor
- C types and qualifiers
- Lots of small examples
  - ints.c
  - floats.c
  - types.c
- Functions?
Intro to C programming

- Why C?
- Millions LOC
- Important future classes

Hello World in C

```c
#include <stdio.h>

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

This is a comment

```c
// This is another comment!
printf("Hello World! \n");
```

```c
return 0;
```

You have to have this return value

Java import
Java

Source (.java)

Compiler

Byte code

Interpreter (java, JVM)
- C and other high-level languages (HLL)

Source code

Preprocessor

Compiler

Assembly language

Assemble

Machine code

Linking + Loading

Execute!
-C preprocessor (cpp ⇒ not c++)

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- #includes

- macro subst.

- conditionals

- strips comments
- C types
  - int : integer type (signed)
  - char : a single ASCII character
  - float : IEEE floating point
  - double : "bigger"

Qualifiers
  - signed (signed int)
  - unsigned (unsigned int)
  - long (long int) > control
  - short (short int) > size
  - const
  - restrict

sizeof ( )