

CS 161, Lecture 3: Conditionals – 17 January 2018



JORGE CHAM © 2016

Quick Recap

- Constants
 - Macros -> `#define MAX_SIZE 100`
 - Const Keyword -> `const int MAX_SIZE = 100; //have to assign value here`
 - Cannot be changed later
- Precedence of Operators
 - Function call
 - `*`, `/`, `%`
 - `+`, `-`
 - Can be changed with parentheses
 - More details here:
http://en.cppreference.com/w/cpp/language/operator_precedence

Quick Recap

- Integer Division -> dividing two ints gets an int
- Float Division -> dividing a float with anything else gets a float
- Type Casting
 - Temporarily changing a variable to act as another type
 - Common
 - Int to char
 - Int to float
 - Ex:

```
int a = 5;  
int b = 6;  
cout << (float) a/b << endl;
```

Some Notes on Size

- Size is finite in computers
 - Ints = 4 bytes
 - Char = 1 byte
 - Floats = 4 bytes
 - Doubles = 8 bytes
 - Bool = 1 byte
- Byte = 8 bits
- Signed and Unsigned impact size
 - Signed = positive and negative, Unsigned = positive
- What is the max value in an unsigned system?
- What happens if we add one to that value?

Decisions

- When do we make decisions?
- Ex:

How do we represent decisions?

How do we code decisions? -> Conditionals

```
if (some condition) {  
    //then execute this code  
}  
elif (the next condition to check) {  
    //this one does not have to exist or there can be many  
}  
else {  
    //this is the default, it does not need to be included  
}
```

Demo