# 2018-09-04 Variables & Commands - C++

Tuesday, September 4, 2018        12:51 PM
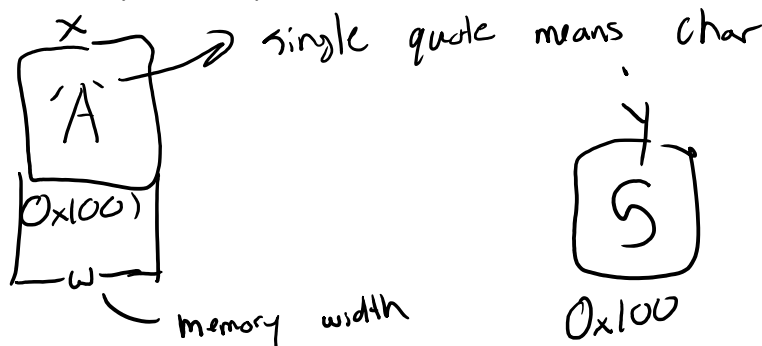
## Announcements

- Next programming assignment assigned
- Participation activity (on canvas) due tomorrow evening
    - What do you feel is going well for you in this class?
      What is not going so well in this class.

## Lecture

- In terms of variables, everything in C++ boils down to either an integer
  or a decimal value (double).

*most things are* ←

- Stacked on top of this are the following data types:
    - int - basic integer that we all know love.  Valid range is between either
      0 and 2^31 OR -2^31 and 2^31

      → *default range*

    - Bool - boolean values (TRUE / FALSE) -> ACTUALLY 1/0
    - Char - A single character value.  These also map to integer values. (ASCII Table)
    - Double - A decimal value.
- Attached to are additional data types that modify the precision of the base data type
    - e.g. short --> -256 to 256
    - Long int --> up to 2^64
    - (maybe) long double --> way bigger than a double
    - C++ only string - An array (sequence) of chars

- In C++, all variables take up a fixed amount of space.  This space CANNOT be altered.
- Our variable "cubbyhole metaphor"



*single quote means char*

*memory width*

- Variable big picture view