Binary, Variables and Filetypes

Decimal uses powers of 10

Binary uses powers of 2 (1,2,4,8,16,32,64)

10011011

 \wedge \wedge \wedge \wedge \wedge 128 16 8 2 1 = 155

Hexadecimal uses powers of 16 (2⁴)

0x7A \(\ \ \ \

0111 1010 //// // // 64 32 16 8 2 = 106

Decimal: Base 10	Binary: Base 2	Hexadecimal: Base 16
Looks like: XXXX	Looks like XXXX ₂	Looks like 0xXXXX
		(Extra Credit!)
Convert to Decimal	Convert to Binary	Convert to Decimal
01102	5	0x7
10012	11	0xD
11112	16	0x10
101012	26	0x1A

- Integer (int): A whole number, positive or negative (-1, 0, 1, but not .5)
- Character (char): A single symbol, generally a letter (You can look up "ASCII tables" to see what they are)
- Boolean (bool): A true or false value
- String (String): A series of characters (Like a word or a sentence) You have to include it at the top of the file (#include <string>)
- Double (double): A fractional decimal number (-.5, 0.0, .333333333)

When creating a value for a string, we use quotation marks ("") to surround the sentence, and when selecting a value for a character we use single quotes ('') to surround the letter.

```
char test = 'A';
string test = "this is a string";
```