Symbolic Encryption
// Comparing String objects, see reference below.
String p = "potato";
if (p == "potato") {
    println("p == potato, yep.");  // This will not print
}
// The correct way to compare two Strings
if (p.equals("potato")) {
    println("Yes, the contents of p and potato are the same.");
}

// Use a backslash to include quotes in a String
String quoted = "This one has \"quotes\"";
println(quoted);  // This one has "quotes"
A *String* is an ordered group of characters.

A *String literal* is an ordered group of characters enclosed in quotes:

"This is a string literal"
"so is this"
"and this"
"also"
"hello"
"12345"
":) (:"
Initialize a String

- String x = "test";

- There are other ways, but we'll just focus on the above for now.
String methods

- `charAt()` — Returns the character at the specified index
- `equals()` — Compares a string to a specified object
- `indexOf()` — Returns the index value of the first occurrence of a substring within the input string
- `length()` — Returns the number of characters in the input string
- `substring()` — Returns a new string that is part of the input string
- `toLowerCase()` — Converts all the characters to lower case
- `toUpperCase()` — Converts all the characters to upper case
Calling methods on a String

- String x = "test";
- char first = x.charAt(0);
- int one = x.indexOf('e');
- int len = x.length();
- String sub = x.substring(0,2);
'modifying' a string

- String a = "hello";
- String b = "world";
- String e = a + ", " + b;

- Strings cannot be modified, but you can put them together with the "+" sign. This is called concatenation.
- e += "!";
- println(e);
What is symbolic encryption?
Example: Pigpen cypher
Example: Templar cypher

A B D
C E
H F
G
I K L
M N
O P Q
R S
T
U V
W X
Y
Exercise

- Download typingInteraction.pde

- Modify it to use a shape drawing function that can create a different symbol for each character from space, ' ', to tilde, '~'