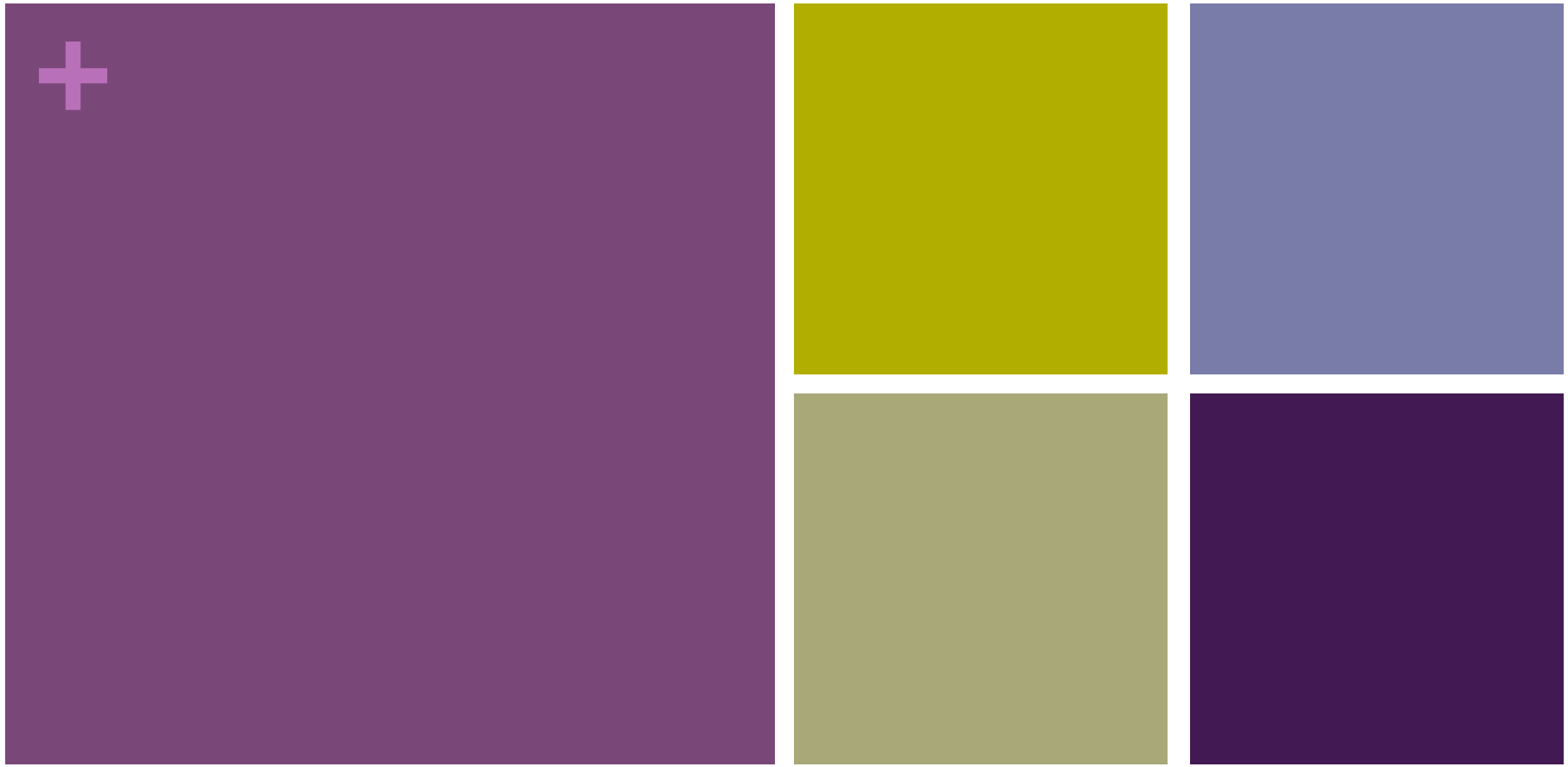


Symbolic Encryption

String class

```
// 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"
```

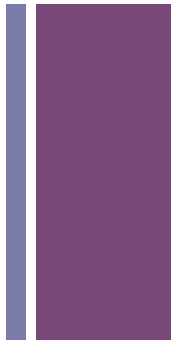
String

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);

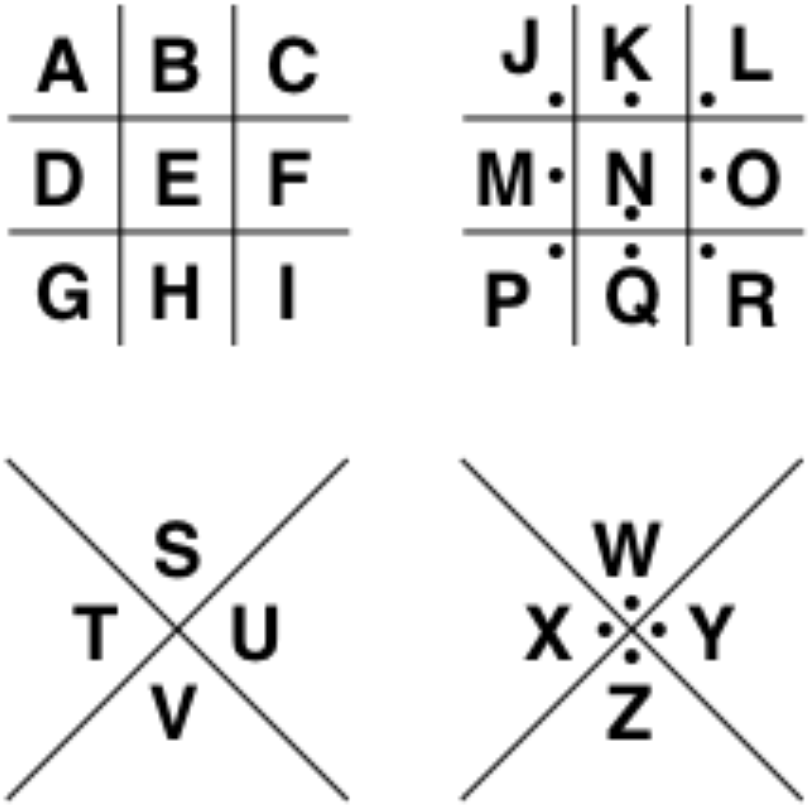
'modifying' a string

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

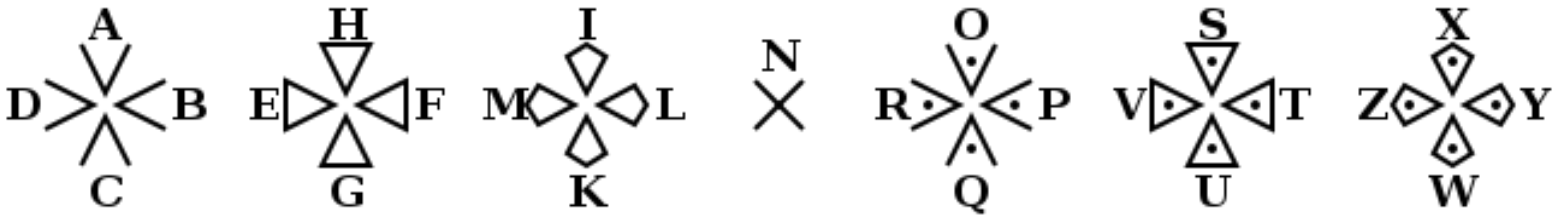
- Strings cannot be modified, but you can put them together with the "+" sign. This is called *concatenation*.
- e += "!";
- println(e);

What is symbolic encryption?

Example: Pigpen cypher



Example: Templar cypher



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, '~'