

# Symbols

```
str = "hello"    # the string
sym = :hello     # the symbol

p str.length     # => 5
p sym.length     # => 5

p str[1]         # => "e"
p sym[1]         # => "e"

p str == sym     # => false
# a string is different from a symbol!
```

## Symbols are Immutable

```
str = "hello"
sym = :hello

str[0] = "x"
sym[0] = "x"

p str    # => "xello"
p sym    # => :hello
```

## Symbols as hash keys

We'll see the preference of using of symbols in a few places in Ruby. For now, one common way to a symbol is as the key in a hash:

```
my_bootcamp = { :name=>"App Academy", :color=>"red", :locations=>["NY", "SF", "ONLINE"] }
p my_bootcamp      # => {:name=>"App Academy", :color=>"red", :locations=>["NY", "SF", "ONLINE"]}
p my_bootcamp[:color]  #=> "red"
```

When initializing a hash with symbol keys, Ruby offers a shortcut. We can drop the rocket (=>) and move the colon (:) to the right of the symbol:

```
my_bootcamp = { name:"App Academy", color:"red", locations:["NY", "SF", "ONLINE"] }
p my_bootcamp      # => {:name=>"App Academy", :color=>"red", :locations=>["NY", "SF", "ONLINE"]}
p my_bootcamp[:color]  #=> "red"
```