# Programming for Everybody

## 7. Refactoring.

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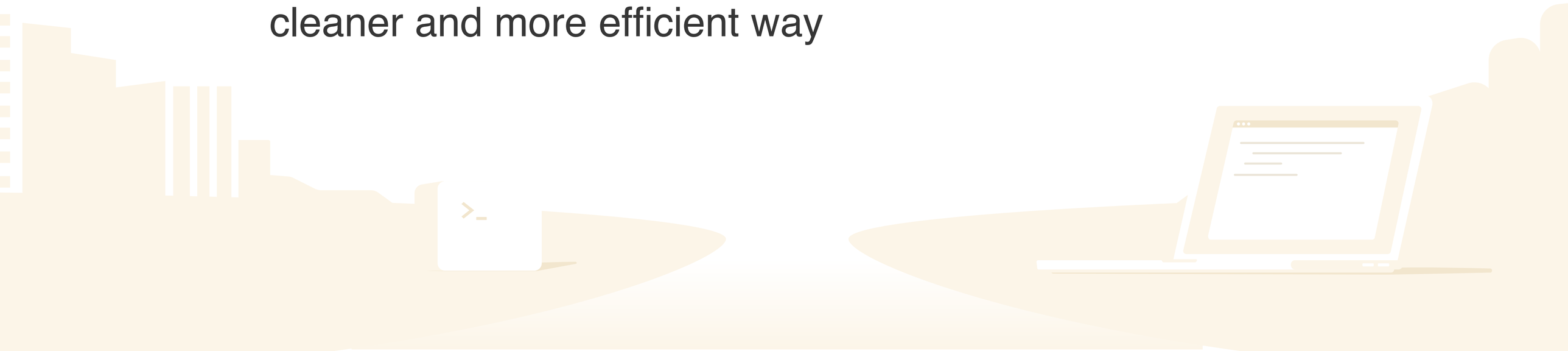
# The beauty of Ruby

to make programmers' life easier Ruby has a lot of *syntax shortcuts* that can help us write code in a faster, cleaner and more efficient way



# One-line if / unless

when the block inside a conditional statement (like if or unless) is a short, simple expression we can write the entire statement on one line only

the syntax and order of elements is: expression + if/unless + boolean

```
age = 20

if age >= 18
  puts “you can vote!”
end
```

```
puts “you can vote!” if age >= 18
```

```
puts if age >= 18 “you can vote!”
```

the order of the elements matters!

# One-line if / unless

a quicker and more concise version of a simple if-else statement is the **ternary conditional expression**

it takes three arguments: a condition (followed by a question mark) + some code to execute if the condition is true (followed by a colon) + some code to execute if the condition is false

condition ? do this if true : do this if false

```
age = 25

puts age >= 18 ? “You can vote" : “You can’t vote”

prints out “You can vote”
```

# Case statemant

a quicker and more concise option for when we're dealing with multiple if and elsifs statements is the **case statement**

```
puts "Which language are you learning?"
language = gets.chomp

case language
when "ruby"
puts "Web apps"
when "css"
puts "Style"
when "html"
puts "Content"
else
puts "Sounds interesting!"
end
```

or

```
case language when "ruby" then puts
"Web apps" when "css" then puts
"Style" when "html" then puts "Content"
else puts "Sounds interesting!" end
```

# Implicit return

unlike most programming languages, Ruby's methods will implicitly *return* the result of the **last evaluated expression** even if we don't specifically type the keyword "return"

```
def sum(a, b)
  return a + b
end
```

```
def sum(a, b)
  a + b
end
```

both print out the same result, but the second is more concise

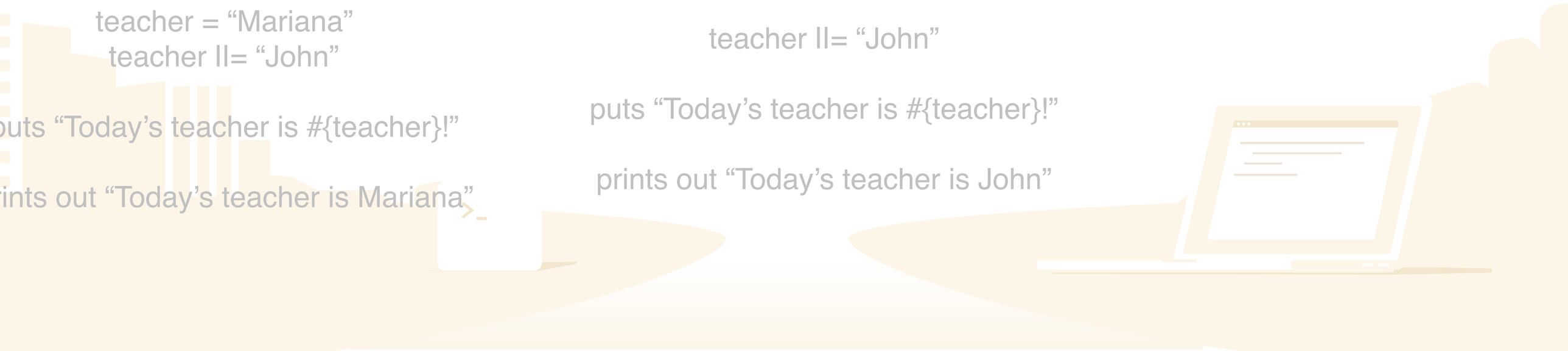
*exception: we only need to type "return" within a method if we need a result to be returned before its last expression*

# Conditional assignment

we can use the = operator to assign a value to a variable but if we only want to assign a variable if it hasn't already been assigned we can use the *conditional assignment operator* **||=**

```
teacher = nil

teacher = “Mariana”
teacher ||= “John”

puts “Today’s teacher is #{teacher}!”

prints out “Today’s teacher is Mariana”
```

```
teacher ||= “John”

puts “Today’s teacher is #{teacher}!”

prints out “Today’s teacher is John”
```



# Upto / Downto

if we know the range of numbers we'd like to loop through, instead of a for loop we can use the **.upto** and **.downto** methods

```
for num in 95..100
  print num , " "
end
```

```
95.upto(100) { |num| print num, " " }
```

both print out the same result, but the second is more "Rubyist"

# One-line blocks

when a block (aka the code inside a method) takes just one line we should write the entire method as a one-liner and use curly brackets instead of “def” and “end”

```
["zoe", "zack"].each do |name|
  puts name.capitalize
end
```

✗

```
["zoe", "zack"].each { |name| puts name.capitalize }
```

✓

both print out the same result, but the second

# Adding to an array

to add an element to the end of an array, instead of using the .push method we can simply use **<<** operator (also known as *the shovel*)

```
my_array = [1, 2, 3]

print my_array.push(4)

prints out [1, 2, 3, 4]
```

same as

```
my_array = [1, 2, 3]

print my_array << 4

prints out [1, 2, 3, 4]
```

# Thank you!