

Pre-Ada Live

In classroom conversation for day 3

Rename yourself in Zoom with your name & pronouns

Software Development Process

SOFTWARE DEVELOPMENT PROCESS

- 0. I can't fix this**
- 1. Crisis of confidence**
- 2. Questions career**
- 3. Questions life**
- 4. Oh it was a typo, cool**

Warmup

Share what you learned from our last session about conditionals (if, else if, else...)

Have a classmate code review your election time code (and vice versa).

- Is it clear what the program is doing?
- Are there sufficient comments?
- Does the control flow of the program make sense?
- Does the code follow the ruby style guide?
- Is there repeated code anywhere?
- Are edge cases appropriately handled?

Focus on using programming vocabulary (e.g, blocks, loops, iterator, variable assignment, conditional statement) and be as precise as possible when reviewing.

Loops

Code that can be repeated more than once

What's the difference between the following types of loops?

- Sentinel Controlled
- Counter Controlled
- Iteration through a collection
- Infinite

Sentinel Controlled

While Loop

```
while <repeat when something is true>  
  # do stuff  
end
```

Until Loop

```
until <repeat when something is false>  
  # do stuff  
end
```

Sentinel Controlled

While Loop

```
while <repeat when something is true>  
  # do stuff  
end
```

Until Loop

```
until <repeat when something is false>  
  # do stuff  
end
```

When would you use an `until` instead of a `while`?

Convert to an until loop

```
puts "Hello we're going to total  
some numbers!"  
puts "Enter a negative number  
to quit."  
  
total = 0  
input = gets.chomp.to_i  
  
while input > -1  
  total += input  
  input = gets.chomp.to_i  
end  
  
puts "Total is #{total}"
```

Convert to an until loop

```
puts "Hello we're going to total  
some numbers!"  
puts "Enter a negative number  
to quit."
```

```
total = 0  
input = gets.chomp.to_i
```

```
while input > -1  
  total += input  
  input = gets.chomp.to_i  
end
```

```
puts "Total is #{total}"
```

```
puts "Hello we're going to total  
some numbers!"  
puts "Enter a negative number  
to quit."
```

```
total = 0  
input = gets.chomp.to_i
```

```
until input <= -1  
  total += input  
  input = gets.chomp.to_i  
end
```

```
puts "Total is #{total}"
```


Counter Controlled

Times Loop

```
<Integer>.times do |i| # i is optional  
  # code goes here  
end
```

Counter Controlled

Times Loop

```
<Integer>.times do |i| # i is optional  
  # code goes here  
end
```

When do you use such a loop?

What kind of loop is this?

```
print "Do you like dogs or cats?"
pet = gets.chomp.downcase

until pet == "dogs"
  puts "How rude! I don't believe you, how can anyone not prefer dogs!"
  print "Come now, tell me truthfully, do you like cats or dogs?"
end

puts "Oh you like dogs now too! We'll be such good friends!"
```

What kind of loop is this?

```
print "Do you like dogs or cats?"
pet = gets.chomp.downcase

until pet == "dogs"
  puts "How rude! I don't believe you, how can anyone not prefer dogs!"
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end

puts "Oh you like dogs now too! We'll be such good friends!"
```

Infinite!

Iterators

Useful for looping over a collection

```
numbers = [1, 2, 3, 4, 5]
numbers.each do |number|
  puts number
end
```

Iterator

```
numbers = [1, 2, 3, 4, 5]
numbers.each do |number|
  puts number
end
```

Block

```
numbers = [1, 2, 3, 4, 5]
numbers.each do |number|
  puts number
end
```

What kind of loop is this?

```
numbers = [1, 2, 3, 4, 5]  
numbers.each do |number|  
  puts number  
end
```

What kind of loop is this?

```
numbers = [1, 2, 3, 4, 5]
numbers.each do |number|
  puts number
end
```

What about now?

```
numbers = [1, 2, 3, 4, 5]
numbers.each do |number|
  puts number
  numbers.push(number * 2)
end
```

Local Variables & Scope

Lets look at the [JSL text on scope](#)

Local Variables & Scope

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Summary

- When you define a local variable inside of a block, it is not visible outside of that block.

What's The Scope of favorite_animal?

```
names = ["Beatrice", "Hanh", "Kalkidan", "Any", "Gessica"]
names.each do |name|
  print "What is the favorite animal of #{name}?\n"
  favorite_animal = gets.chomp
  puts "\t#{favorite_animal} is mine too!"
end

puts "Favorite Animal is #{favorite_animal}"
```

What is the scope of favorite_animal here?

```
print "What's your first name?"
name = gets.chomp.capitalize

if name.start_with?("A")
  print "What is your favorite animal?"
  favorite_animal = gets.chomp
end

puts "Your favorite animal is #{favorite_animal}"
```

Exercises

Lets review on [Number Guessing Game from Unit 3](#)

Debrief

- What new things did you learn today?
- What topics are you still struggling with?
- What did you especially enjoy about today's class?
- What can be improved for future classes?

Pre-Ada Day 3 Survey

[Please give us feedback!](#)