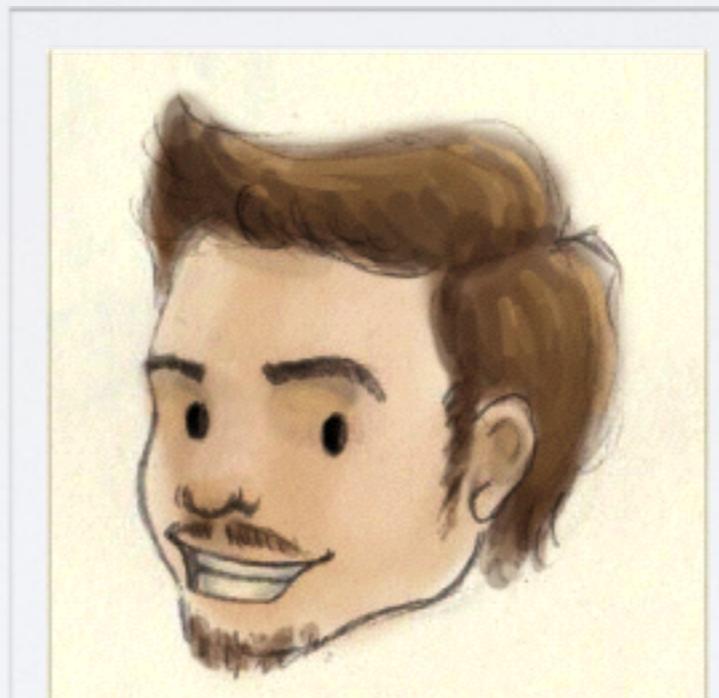


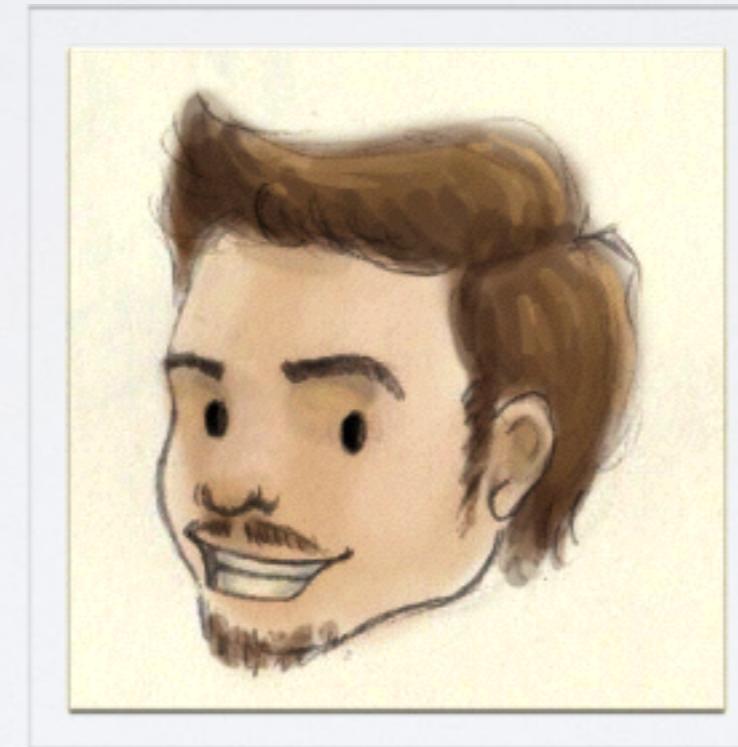
# HOW TEACHING KIDS MADE ME A BETTER DEVELOPER

Ramón Huidobro

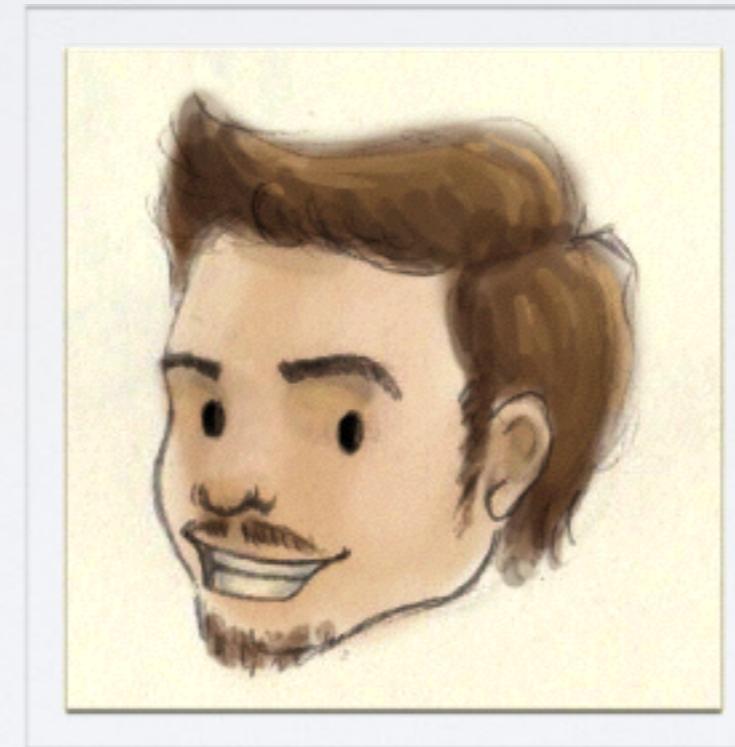
# WHO'S THIS RAMÓN FELLA?



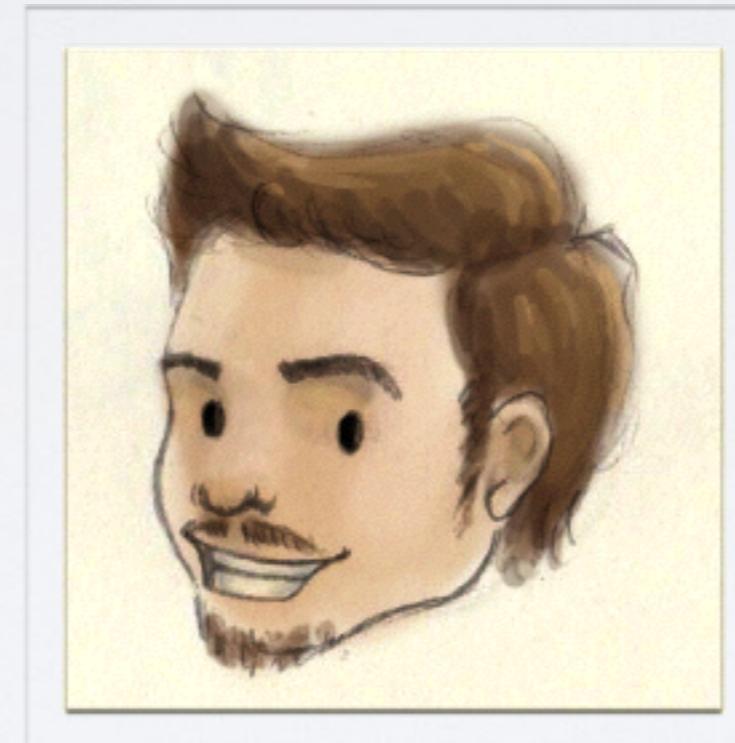
# WHO'S THIS RAMÓN FELLA?



# WHO'S THIS RAMÓN FELLA?



# WHO'S THIS RAMÓN FELLA?



CODING <3

# Computer Game Programming





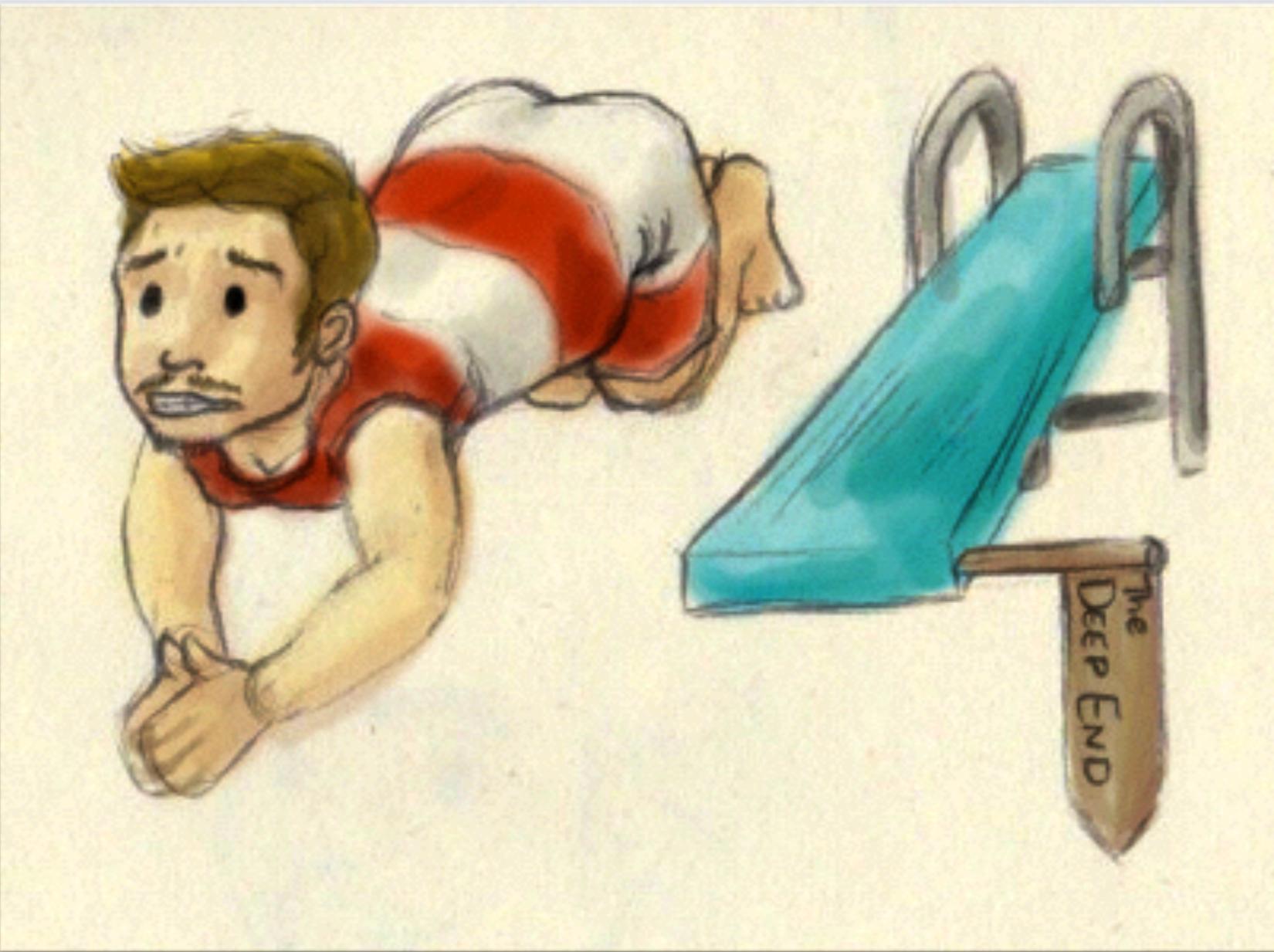
'gosu'





'gosu'



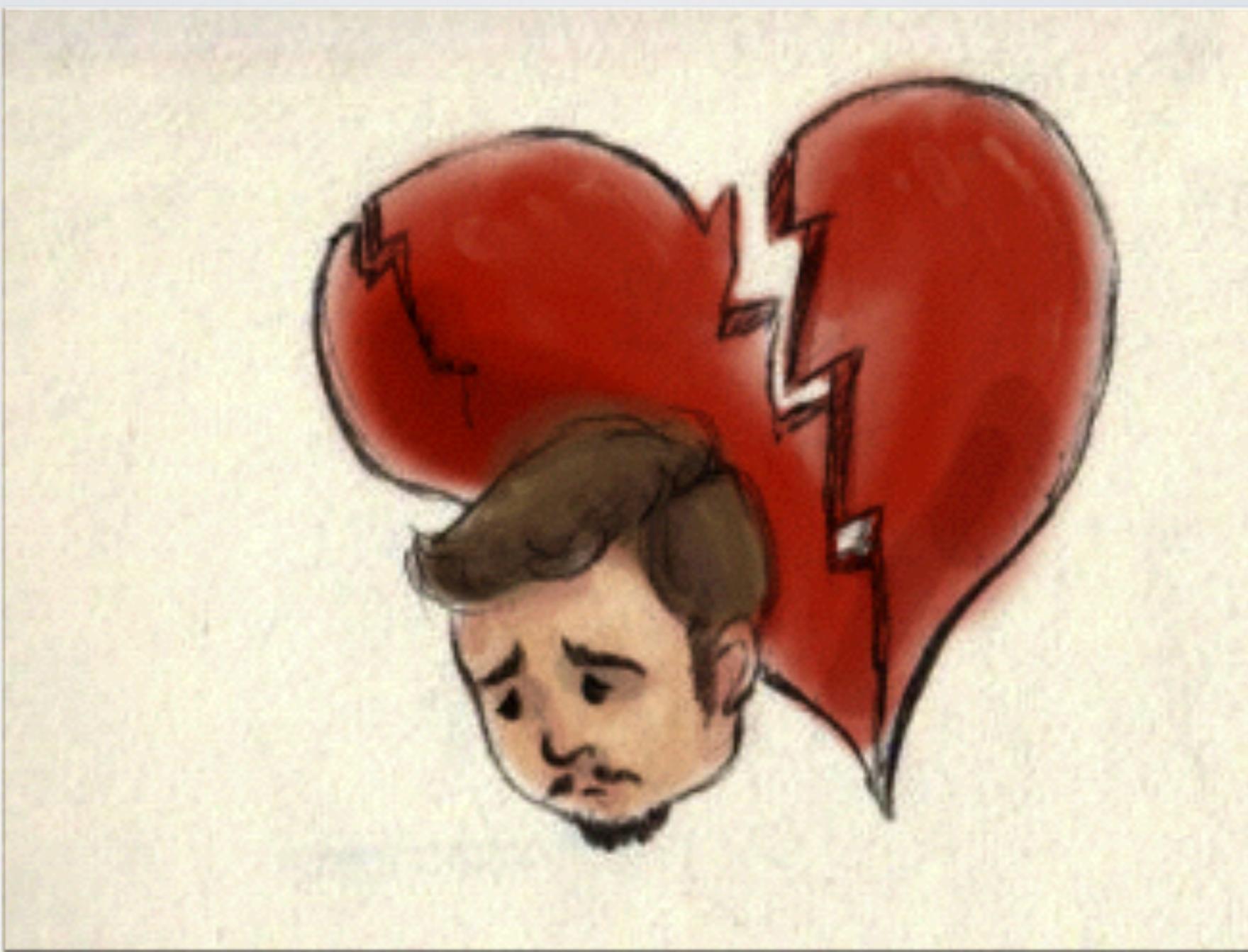


FIRST, THE CHALLENGES.







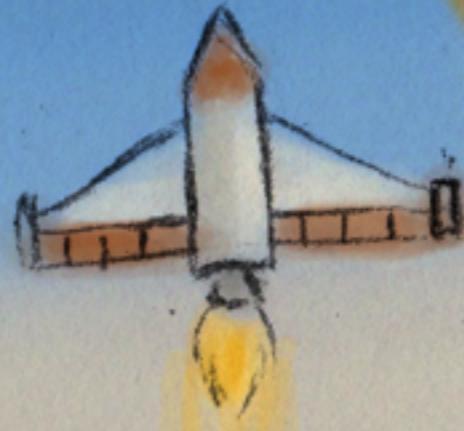




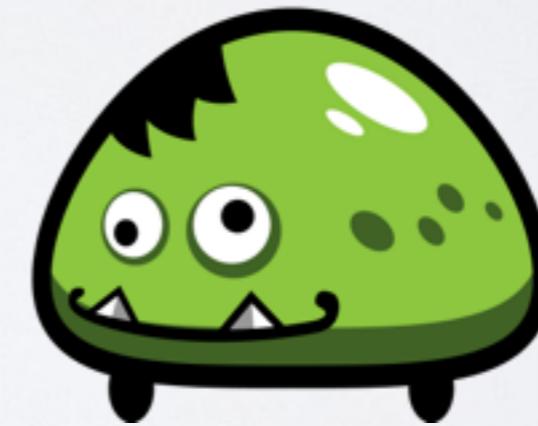
- **Break ALL the things**
- Appreciate that which I take for granted
- Learn by doing, understand by practising
- Simple != Easy to understand
- Read loads of code



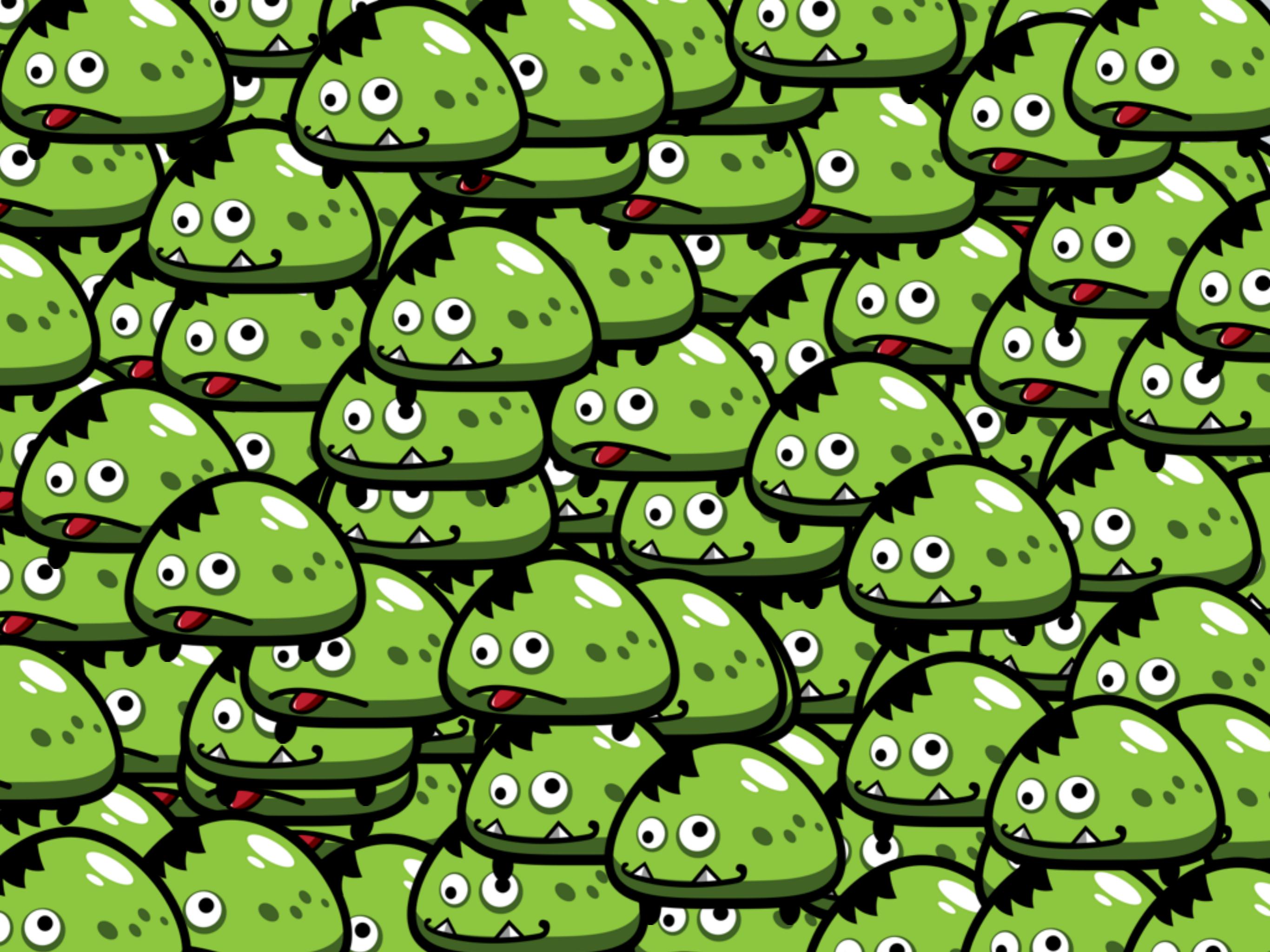
Their speed...  
it's over 9000!

















AWESOME!

‘THE LAPTOP ISN’T  
POWERFUL ENOUGH!’

HAVING FUN IS IMPORTANT!

- Break ALL the things
- **Appreciate that which I take for granted**
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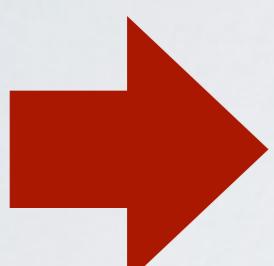
RUBY CODE COMIN' UP!

```
class Window
    GAME_HEIGHT = 800
    GAME_WIDTH = 600
    def initialize
        super(GAME_WIDTH, GAME_HEIGHT)
        @background = Image.new('space.png')
        @player = Player.new(self)
    end

    def draw
        @background.draw(0, 0, 1)
    end

    def draw
        @player.draw(@player.x, @player.y, 2)
    end
end
```

```
class Window
    GAME_HEIGHT = 800
    GAME_WIDTH = 600
    def initialize
        super(GAME_WIDTH, GAME_HEIGHT)
        @background = Image.new('space.png')
        @player = Player.new(self)
    end
```



```
def draw
    @background.draw(0,0,1)
end


def draw
    @player.draw(@player.x, @player.y, 2)
end
end
```

... WHY NOT?

```
name = "Ramon"  
puts name
```



```
name = "Ramon"  
puts name => "Ramon"
```

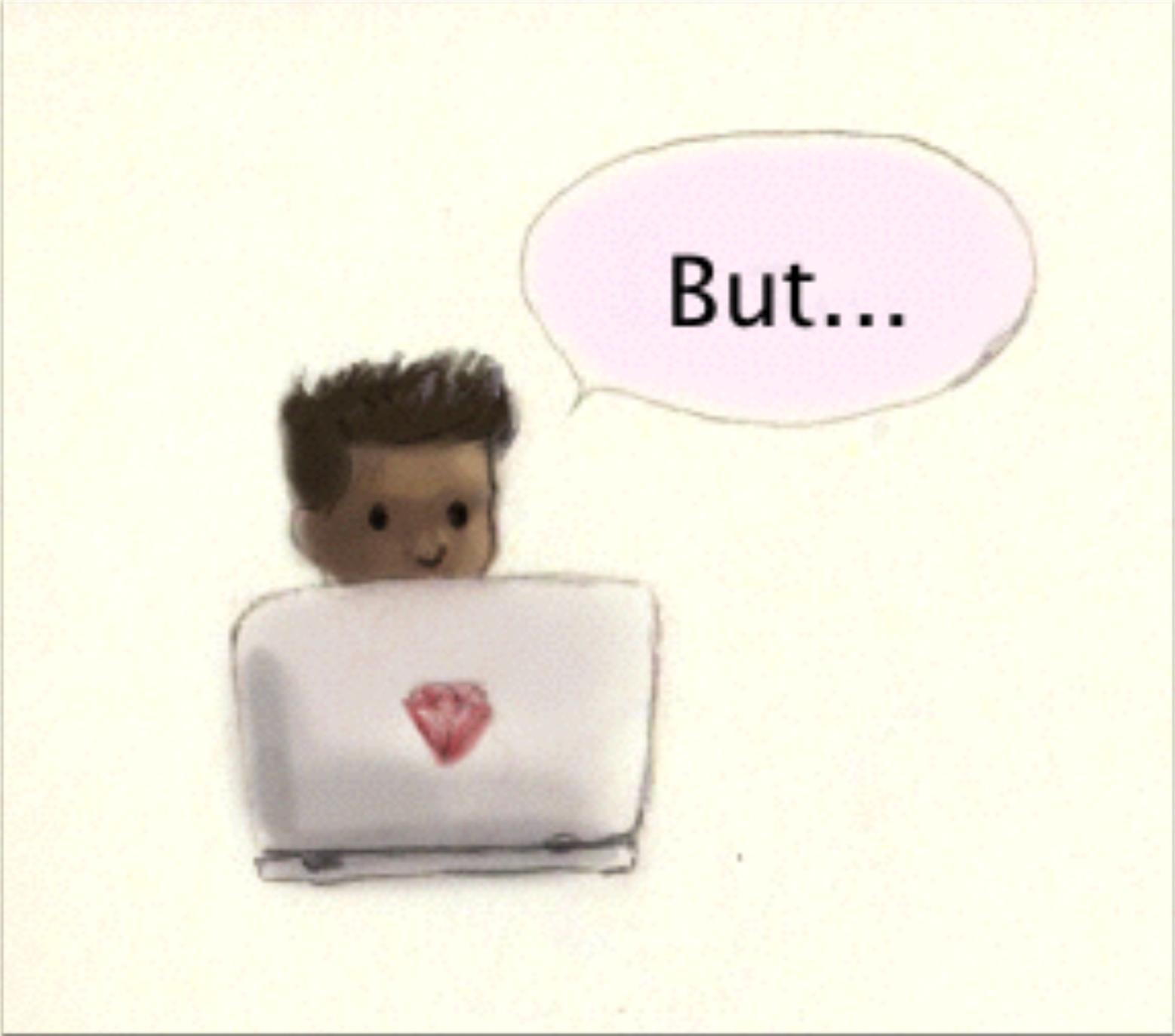
```
puts name  
name = "Ramon"
```



```
puts name  
name = "Ramon"
```

```
NameError: undefined local variable or method  
'name' for main:Object  
    from (irb):1  
    from /Users/ramonh/.rvm/rubies/  
ruby-2.2.0/bin/irb:11:in `<main>'
```





**But...**



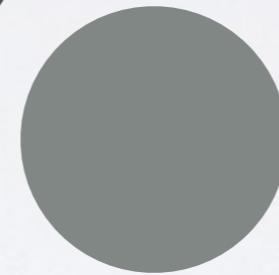


# GRAPHICS!

Awesome game 4000!

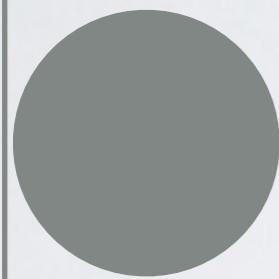
Awesome game 4000!

(x, y)



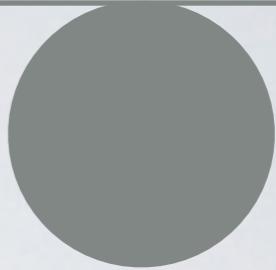
Awesome game 4000!

(0, y)



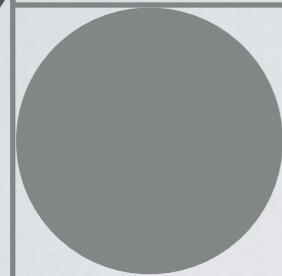
Awesome game 4000!

(x, 0)

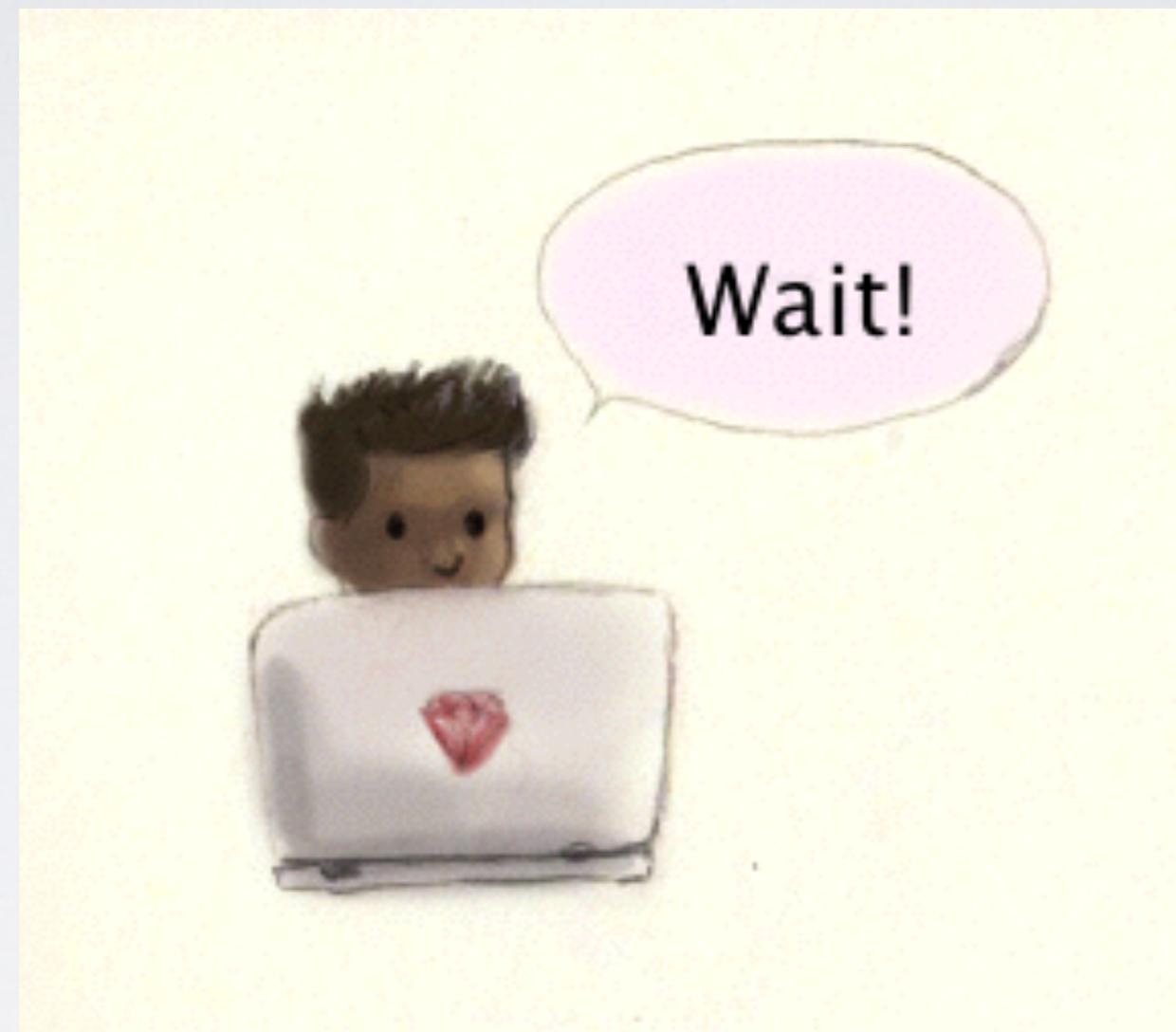
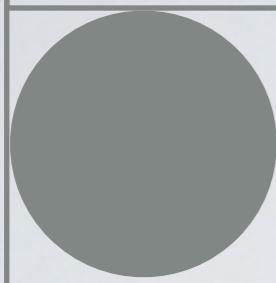


Awesome game 4000!

(0, 0)

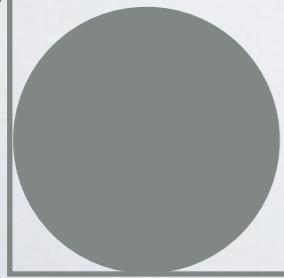


(0, 0) Awesome game 4000!

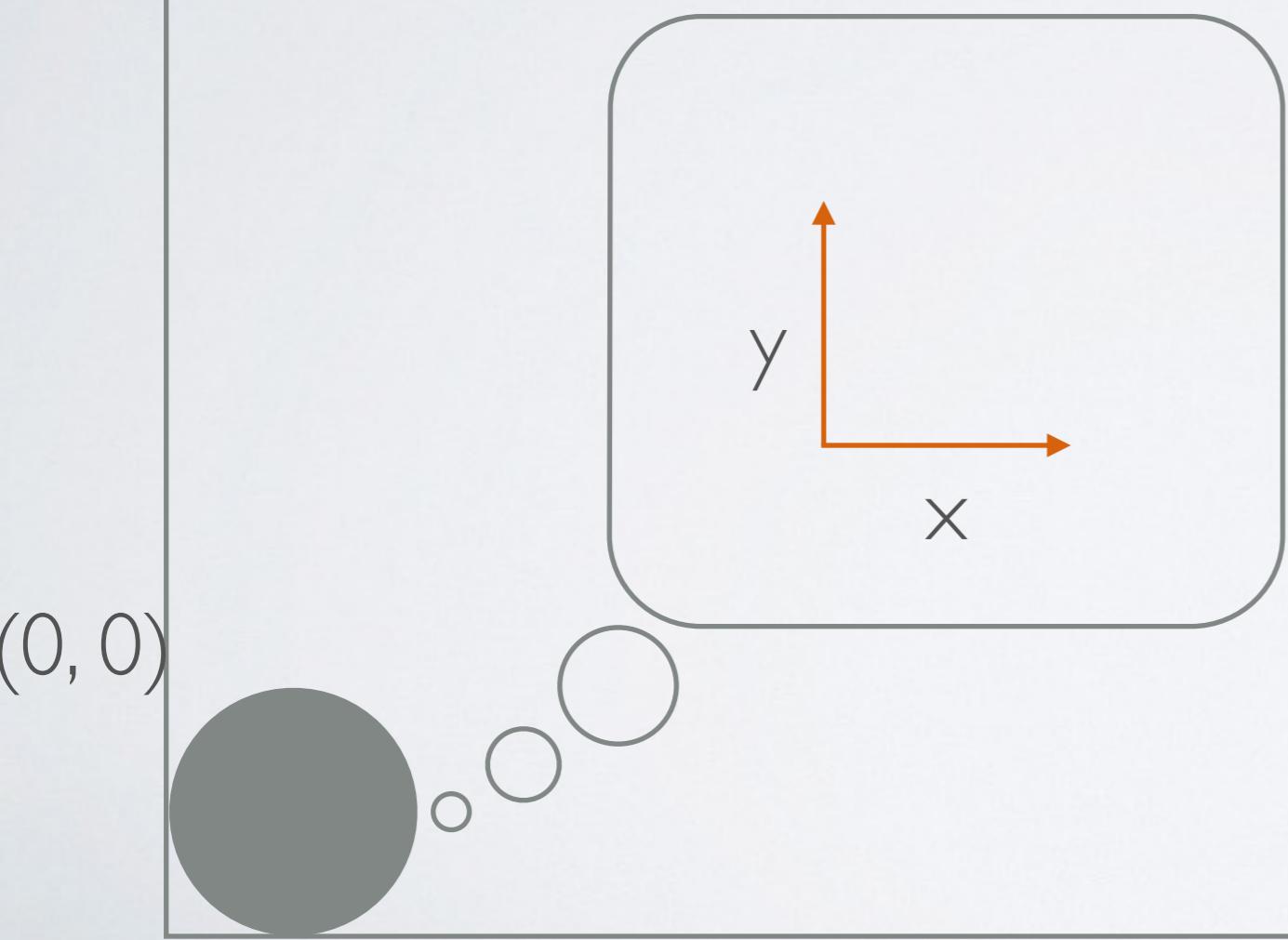


Awesome game 4000!

(0, 0)



# Awesome game 4000!



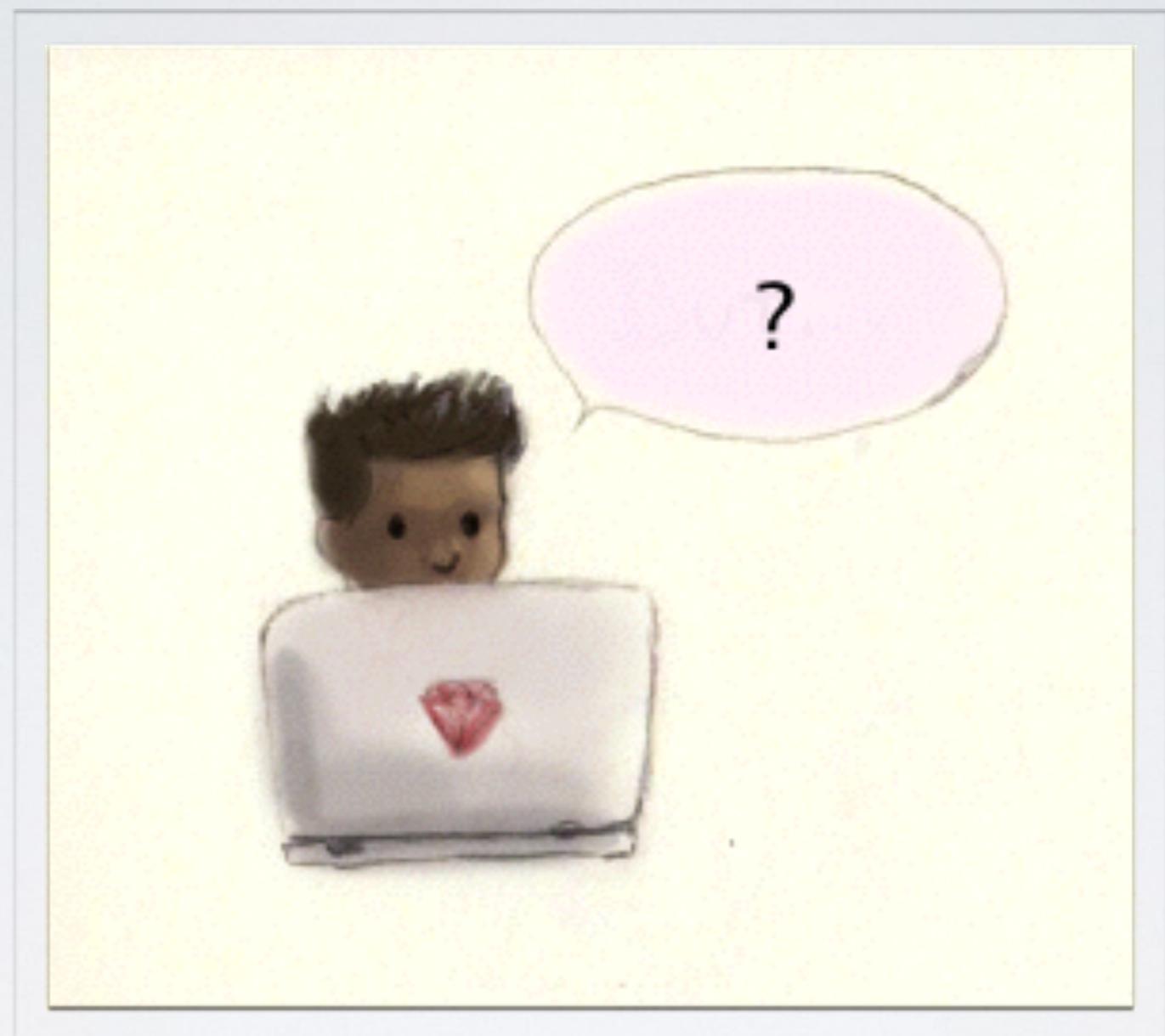




AWESOME!

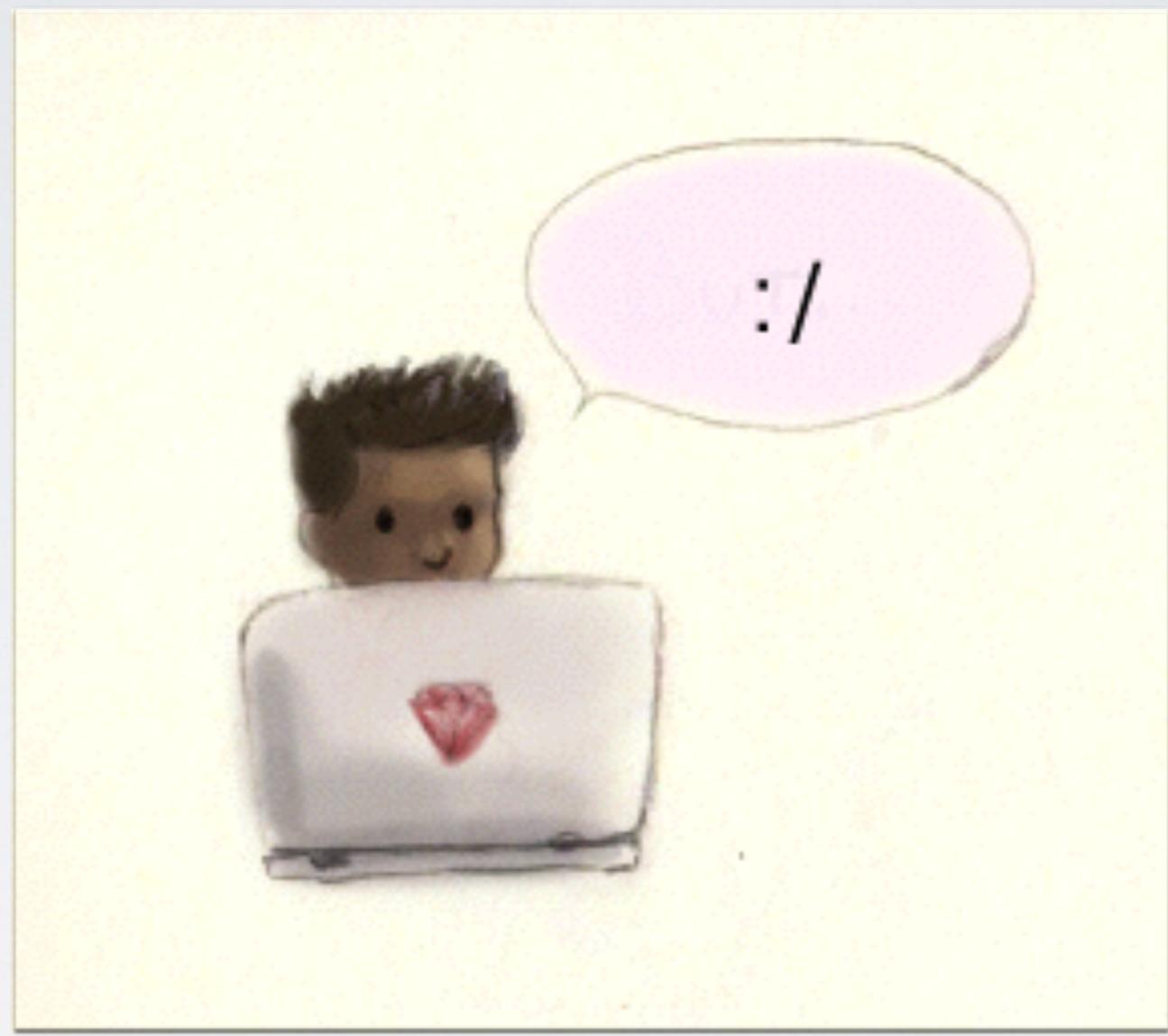
- Break ALL the things
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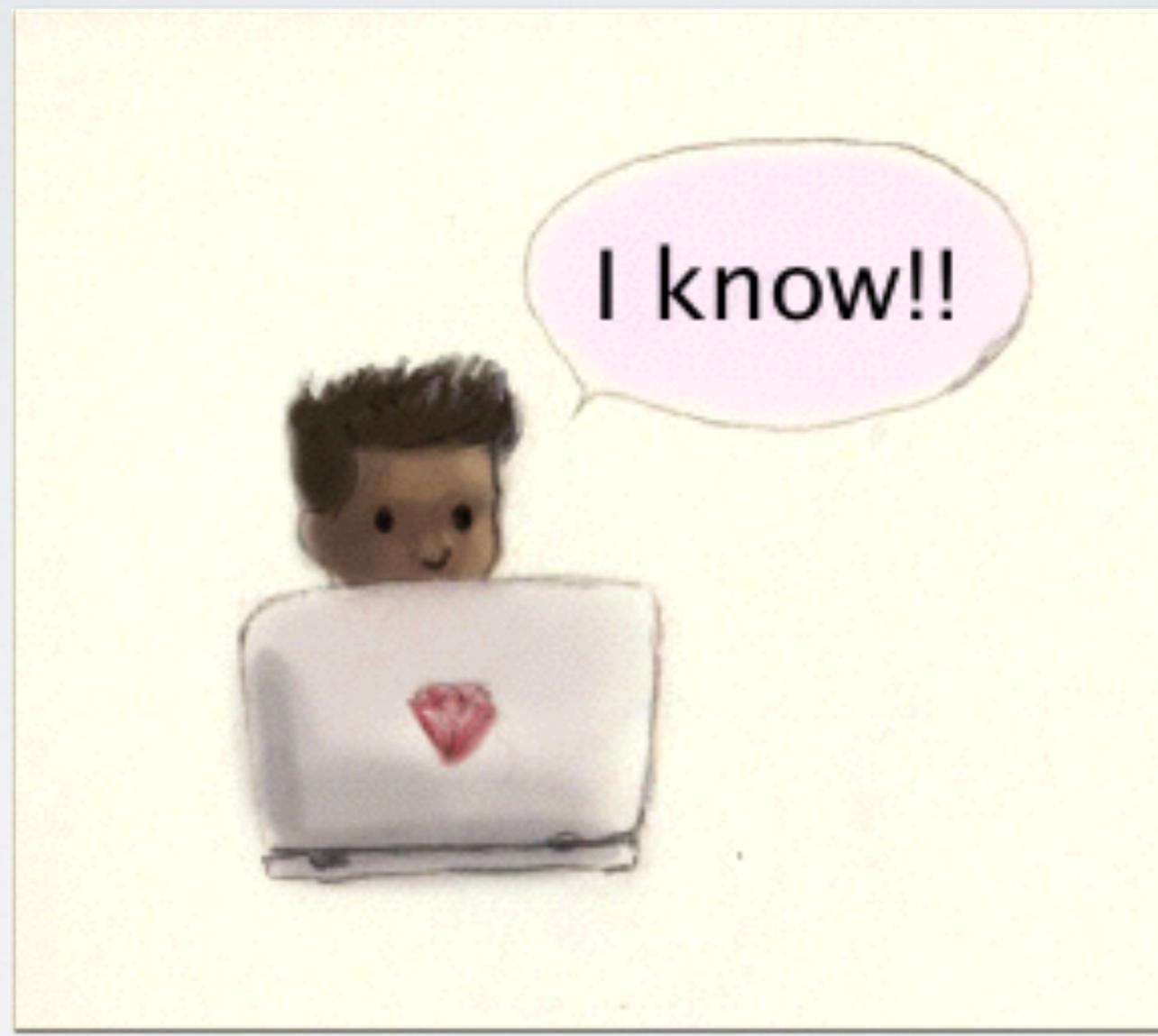
“OK EVERYONE, THIS IS WHAT  
AN ARRAY IS!”



# ALRIGHT EVERYBODY! LET'S...

- Make a new array with 50 enemies
- Add an enemy to the array
- Move each enemy five pixels to the right
- Kill every single enemy





I know!!

I GOTTA DO LOTS OF KATAS!



- Break ALL the things
- Appreciate that which I take for granted
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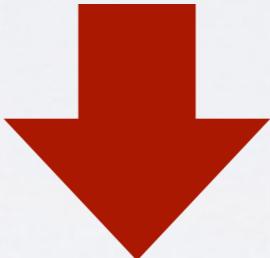
```
def update
    @player.x = @player.x + 5
end
```

```
def update  
    @player.x = @player.x + 5  
end
```

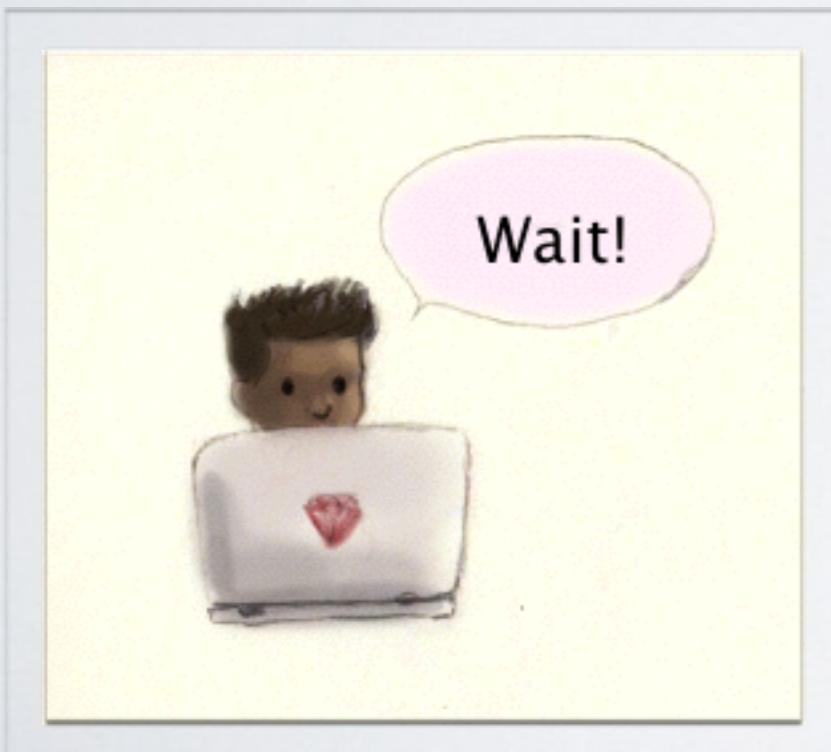


```
def update  
    @player.x += 5  
end
```

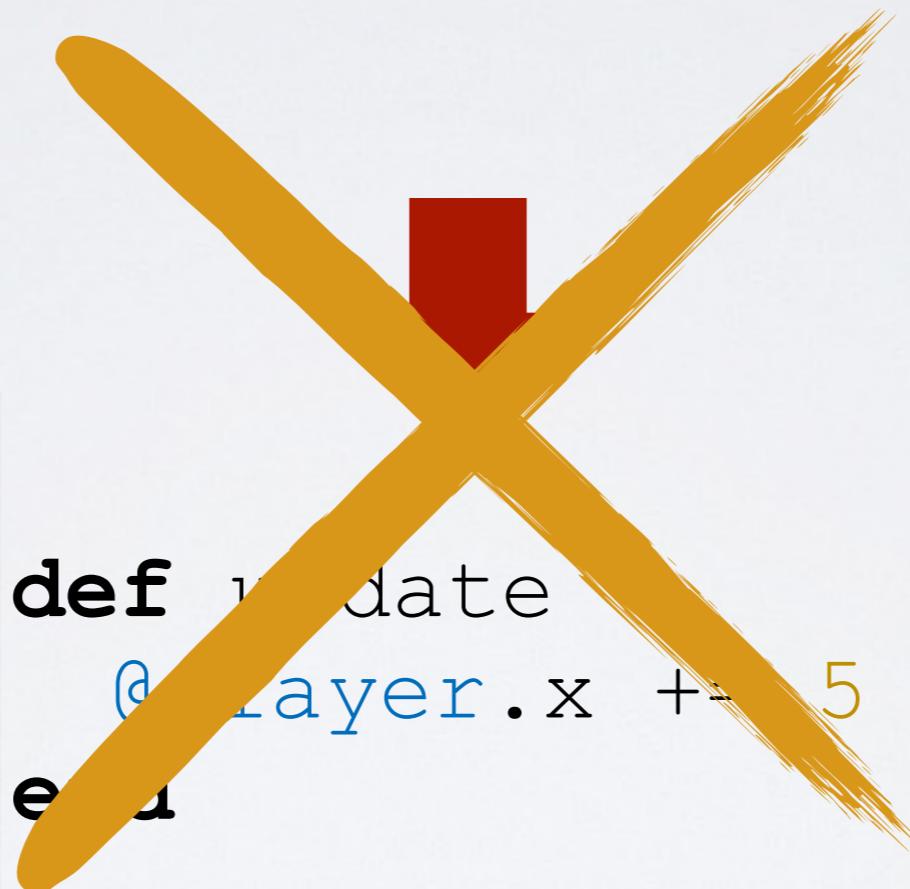
```
def update  
  @player.x = @player.x + 5  
end
```



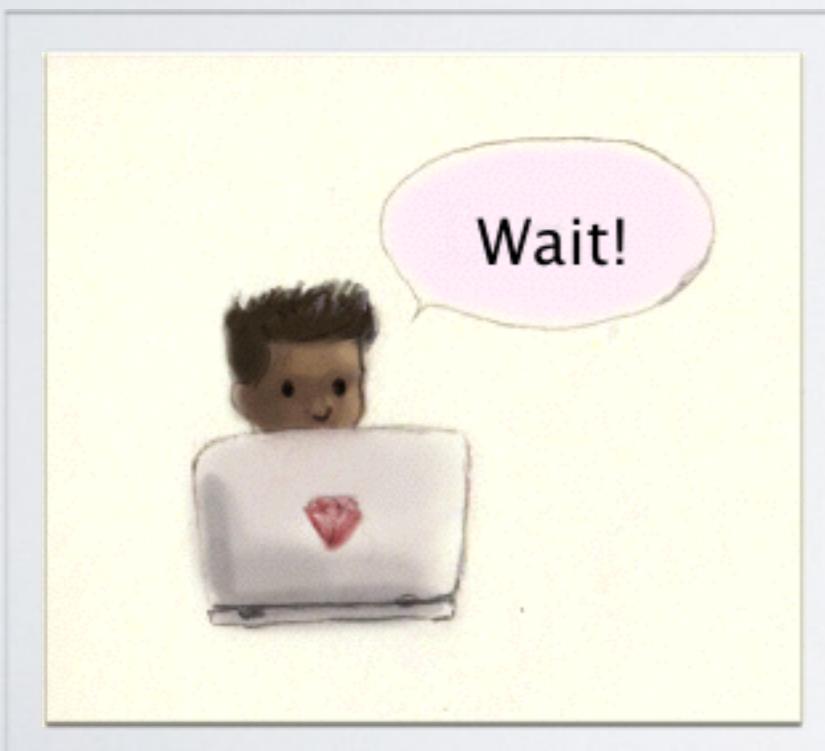
```
def update  
  @player.x += 5  
end
```



```
def update  
    @player.x = @player.x + 5  
end
```



```
def update  
    @player.x += 5  
end
```





```
YAML.dump(obj.key_paths.each { |key_path| Hash[key_path, obj.send(key_path)] })
```

```
@player.x = [@player.x - 5, 0].max
```

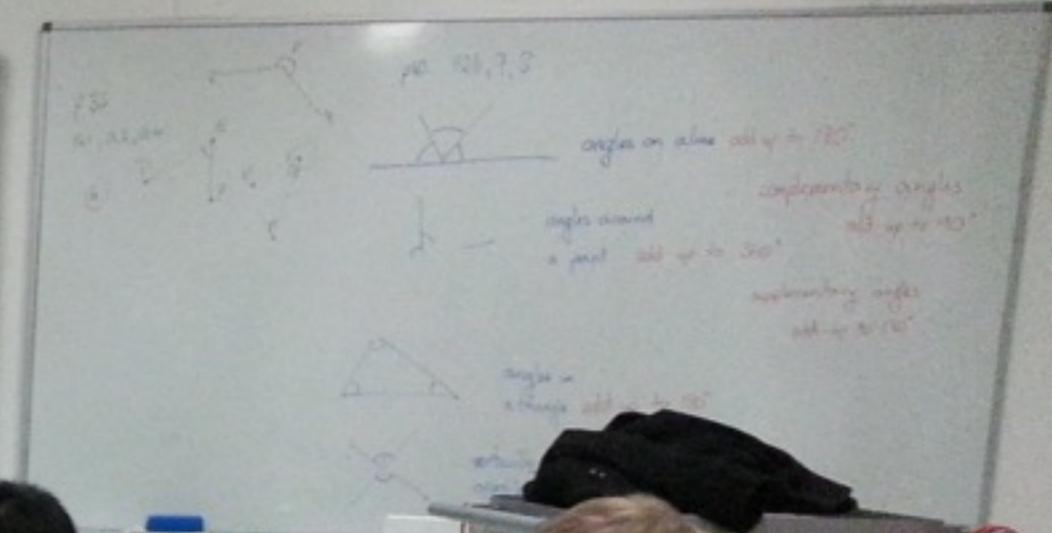
```
@player.x = [@player.x - 5, 0].max
```



```
@player.x = @player.x - 5
if @player.x < 0
  @player.x = 0
end
```

- Break ALL the things
- Appreciate that which I take for granted
- Learn by doing, understand by practising
- Simple != Easy to understand
- **Read loads of code**

```
#!/usr/bin/python  
#  
# Name: Asteroid.py  
# Author: [REDACTED]  
#  
# Description:  
# This program creates a game window with a player and an asteroid.  
# The player can move left and right, and the asteroid moves downwards.  
  
# Import required modules  
import pygame  
from pygame.locals import *  
import sys  
  
# Set up the window  
class Window(pygame.Window):  
    def __init__(self, width, height):  
        super().__init__(width, height)  
        self.player = Player(self)  
        self.asteroid = Asteroid(self)  
        self.setCaption("Asteroid Game")  
  
    def draw(self):  
        self.player.draw()  
        self.asteroid.draw()  
  
    def update(self):  
        self.asteroid.y += 5  
        if self.asteroid.y > 600:  
            self.asteroid.y = 0  
  
# Update code
```



TIME IS SHORT!



“IT'S BROKEN \\_(ツ)\_/”

“IT'S BROKEN \\_(ツ)\_/”

```
def update
  @asteroids.each do |asteroid|
    asteroid.move_down
    if @player.collided_with?(asteroid)
      @player.explode
      game_over
      break
    end
  end
```

“IT'S BROKEN \\_(ツ)\_/”

```
def update
  @asteroids.each do |asteroid|
    asteroid.move_down
    if @player.collided_with?(asteroid)
      @player.explode
      game_over
      break
    end
  end
```



# “IT'S BROKEN \\_(ツ)\_/”

```
require 'gosu'
class Window < Gosu::Window
  def initialize
    super(800,800, false)
    @player = Player.new(self)
    @asteroids = Array.new(5) { Asteroid.new(self) }
    @bullets = []
  end

  def draw
    @player.draw
    @asteroids.each do |asteroid|
      asteroid.draw
    end
    @bullets.each do |bullet|
      bullet.draw
    end
  end

  def update
    @asteroids.each do |asteroid|
      if @player.crashed_into_asteroid?(asteroid)
        self.close
      end
      asteroid.y = asteroid.y + 10
      if asteroid.y > 800
        asteroid.y = 0
        asteroid.x = Random.rand(800 - asteroid.width)
      end
    end

    if button_down? Gosu::KbSpace
      if @bullets.size < 1
        @bullets << Bullet.new(self, @player.x + (@player.width/2), @player.y)
      end
    end

    @bullets.each do |bullet|
      bullet.y = bullet.y - 20
      if bullet.y < 0
        bullet.kill
      end
      @asteroids.each do |asteroid|
        if bullet.crashed_into_asteroid?(asteroid)
          bullet.kill
          asteroid.kill
        end
      end
    end

    @bullets.select! { |bullet| bullet.alive }
    @asteroids.select! { |asteroid| asteroid.alive }

    if button_down? Gosu::KbLeft
```

“IT'S BROKEN \\_(ツ)\_/”

```
require 'gosu'
class Window < Gosu::Window
  def initialize
    super(800, 800, false)
    @player = Player.new(self)
    @asteroids = Array.new(5) { Asteroid.new(self) }
    @bullets = []
  end
```

“IT'S BROKEN \\_(ツ)\_/”

```
require 'gosu'
class Window < Gosu::Window
  def initialize
    super(800, 800, false)
    @player = Player.new(self)
    @asteroids = Array.new(5) { Asteroid.new(self) }
    @bullets = []
  end
```

I'M READING LOTS OF CODE  
NOW AND IT'S GREAT!

DOWNLOAD A GEM OR  
FRAMEWORK AND READ  
THROUGH IT

- Break ALL the things
- Appreciate that which I take for granted
- Learn by doing, understand by practising
- Simple != Easy to understand
- Read loads of code

Have fun

Explore

Have fun

Be brave

Explore

Have fun

Be brave

Explore

Have fun

Question things

Be brave

Take a step back

Explore

Have fun

Question things

Be brave

Take a step back

Explore

Have fun

Check out different languages

Question things

Be brave

Practice practice practice!

Take a step back

Explore

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Explore

Have fun

Check out different languages

Question things

Don't be afraid to show off code

Be brave

Practice practice practice!

Take a step back

Explore

Have fun

Check out different languages

Be patient

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Practice practice practice!

Take a step back

Explore

Have fun

Check out different languages

Be patient

It takes time to learn things

Question things

Don't be afraid to show off code

Be brave

Practice practice practice!

Learn together!

Take a step back

Explore

Have fun

Check out different languages

Be patient

It takes time to learn things

Question things

Don't be afraid to show off code

NOT JUST FOR KIDS!



Ramón Huidobro

 @senorhuidobro

 ramonh

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Birgit Klemenz

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Thank you for the illustrations!



Ramón Huidobro

 @senorhuidobro

 ramonh

[www.ramonhuidobro.com](http://www.ramonhuidobro.com)

THANKS FOR LISTENING!



Birgit Klemenz

[birgit.klemenz@gmail.com](mailto:birgit.klemenz@gmail.com)

Thank you for the illustrations!