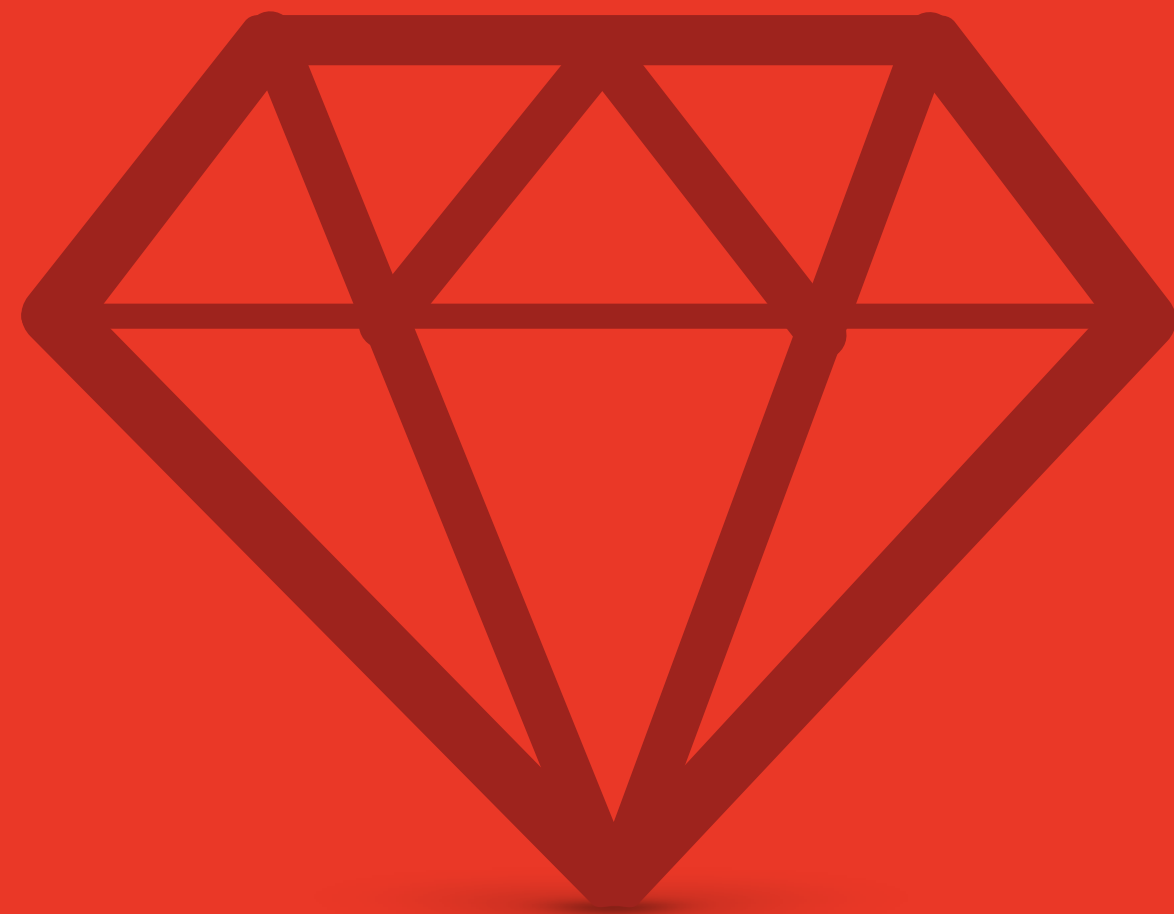
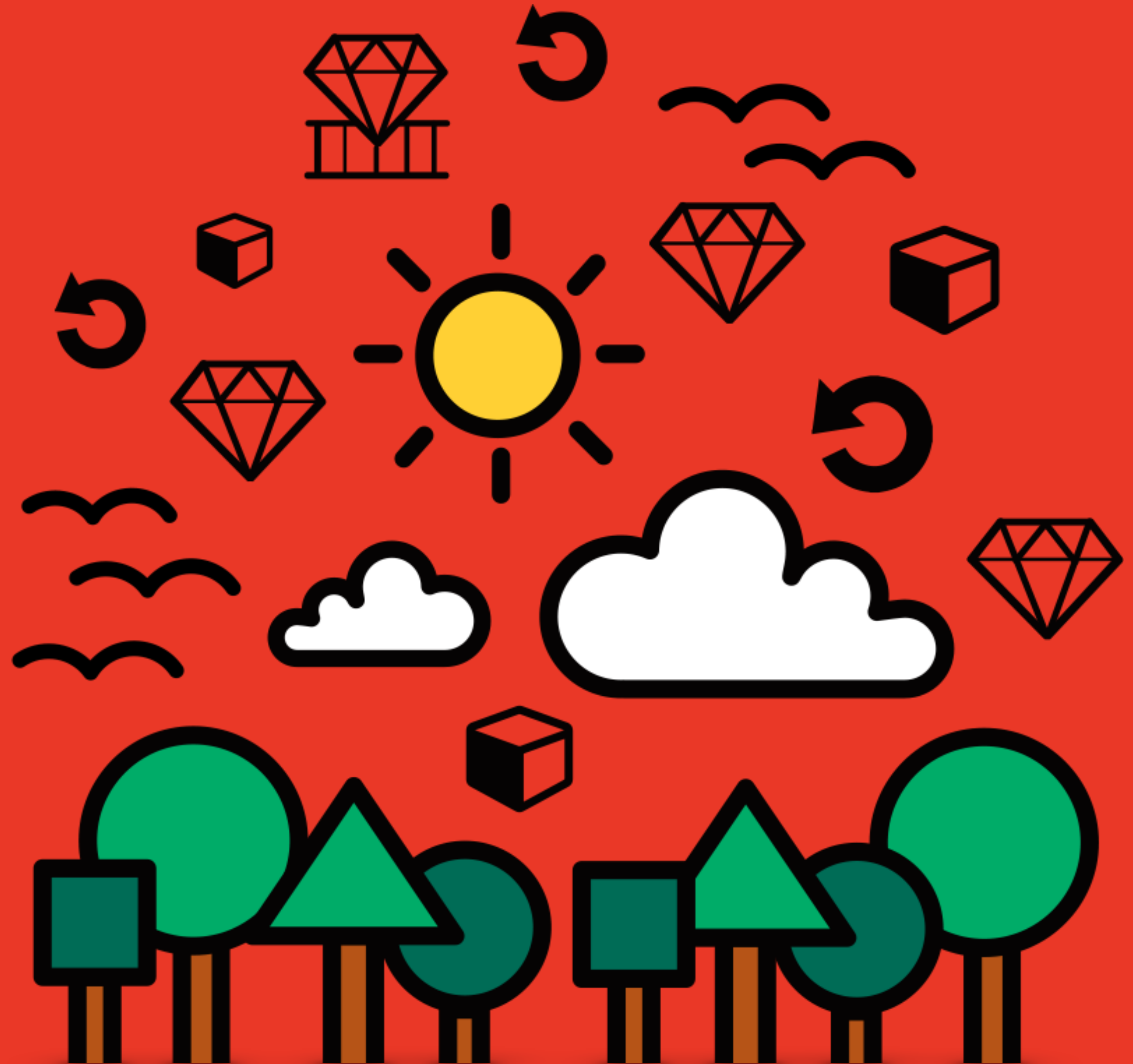


# Basic Programming



by **Joost Elfering**

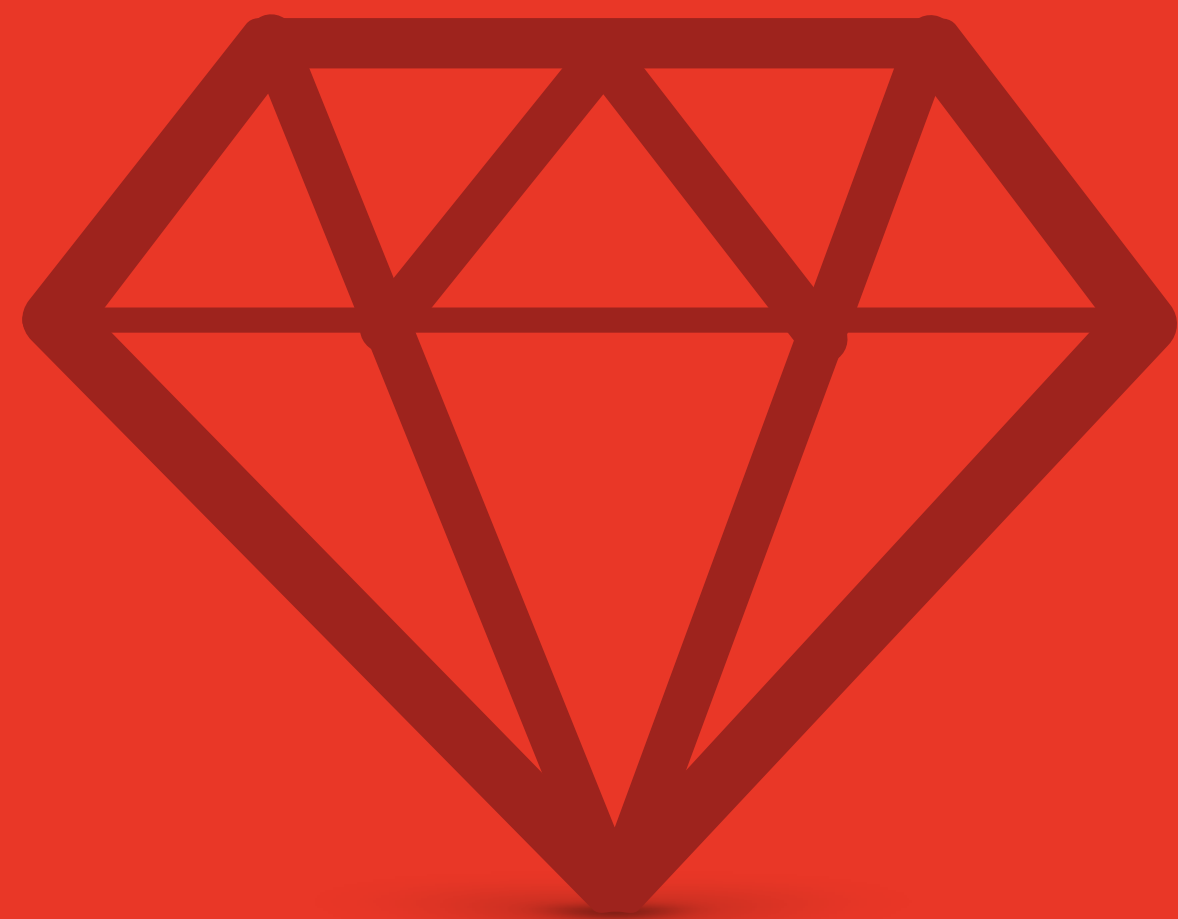




# Overview

- What is **Ruby**
- **Interactive Ruby Shell**
- **Objects**
- **Operators**
- **Methods**
- **Ruby files**





# Ruby

## Language

Do you, do you, do you, do you, do you



# Why?

- **Multiparadigmatic**
- **Object-oriented**
- **Japanese**
- **Easy to write**





# IRB

Interactive Ruby Shell

# IRB

```
my-machine:~$ irb
```

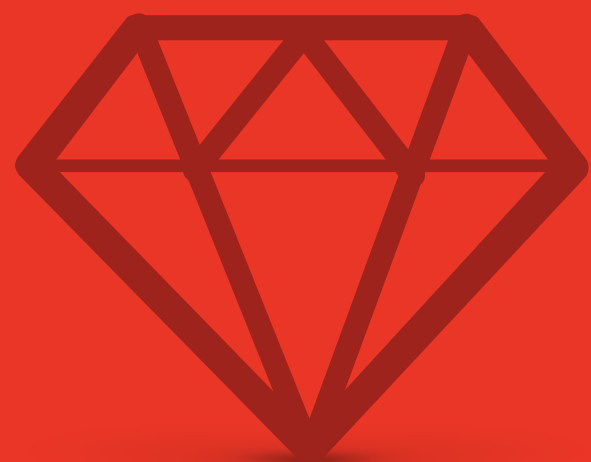
```
2.2.2 :001 >
```

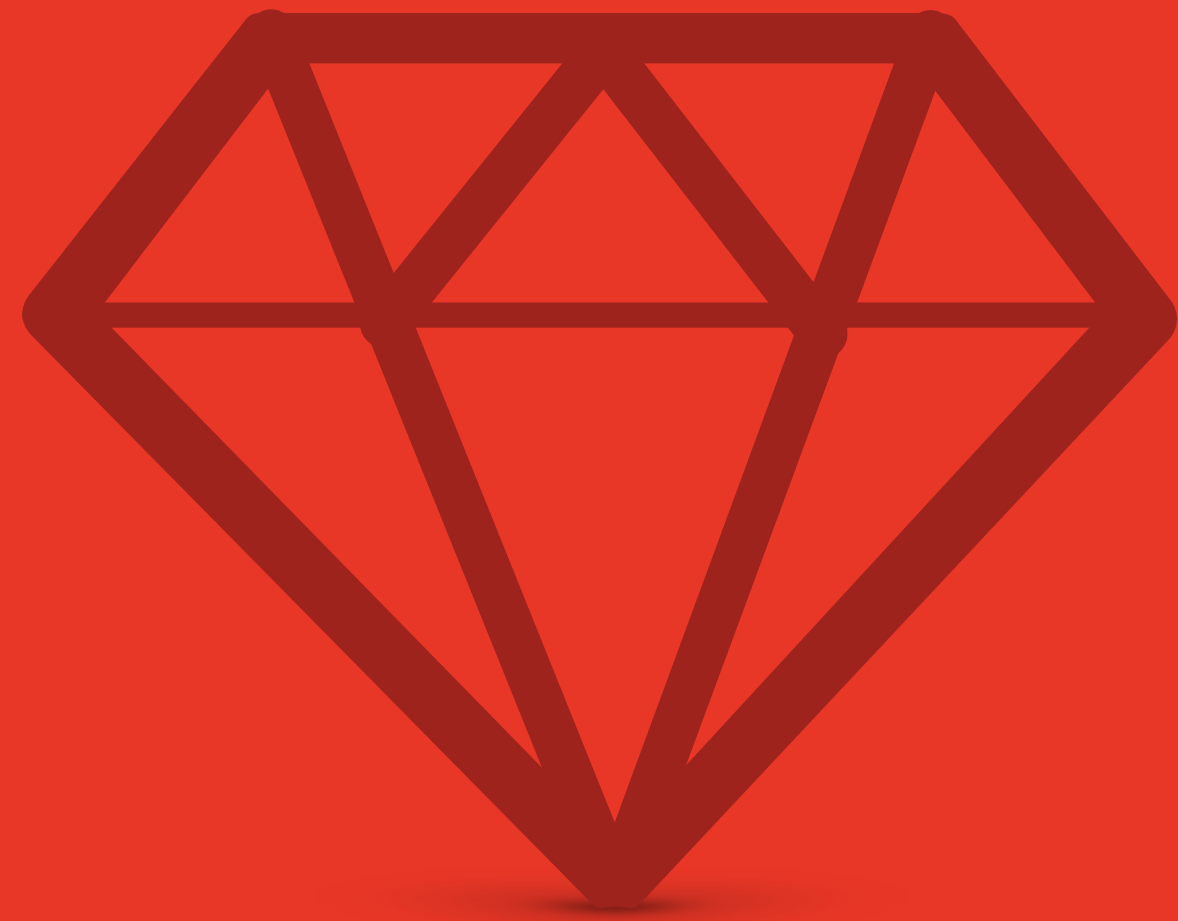
```
2.2.2 :002 > puts "Hello World!"
```

```
Hello World!
```

```
=> nil
```

```
2.2.2 :003 >
```





# Objects

Let's be objective about it

# Objects

```
my-machine:~$ irb
2.2.2 :001 > "Hello World!"
=> "Hello World!"
2.2.2 :002 > 1
=> 1
```





# Objects: types

```
2.2.2 :003 > "Hello World!".class
```

```
=> String
```

```
2.2.2 :004 > 1.class
```

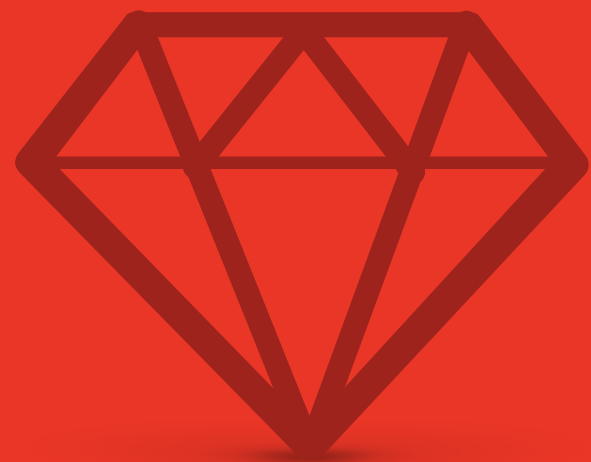
```
=> Fixnum #=> Integer
```

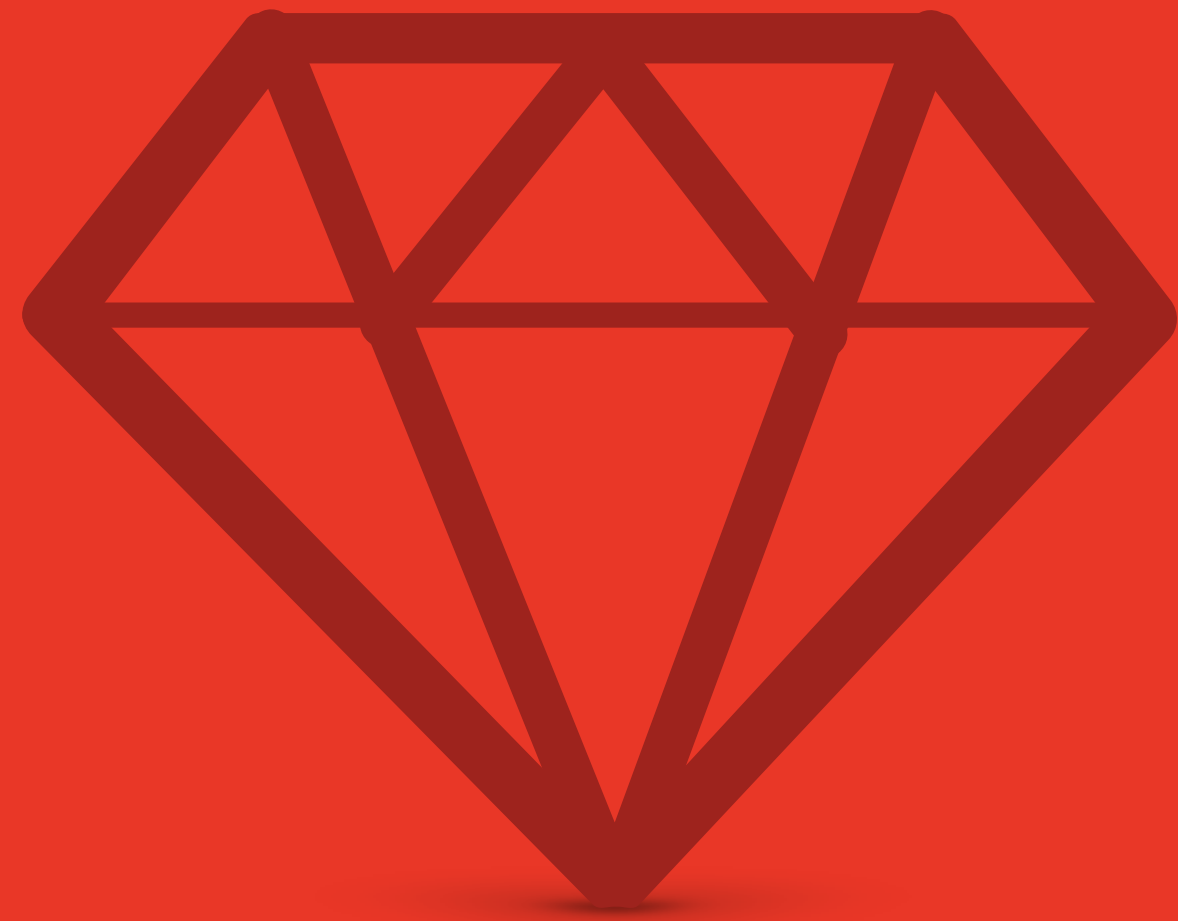
```
2.2.2 :005 > 2.2.class
```

```
=> Float
```

```
2.2.2 :006 > true.class
```

```
=> TrueClass #=> Boolean
```





# Operators

Can you connect me to  
the house of...



# Operators: arithmetic

2.2.2 :001 > 1 + 1

=> 2

2.2.2 :002 > 7 / 2

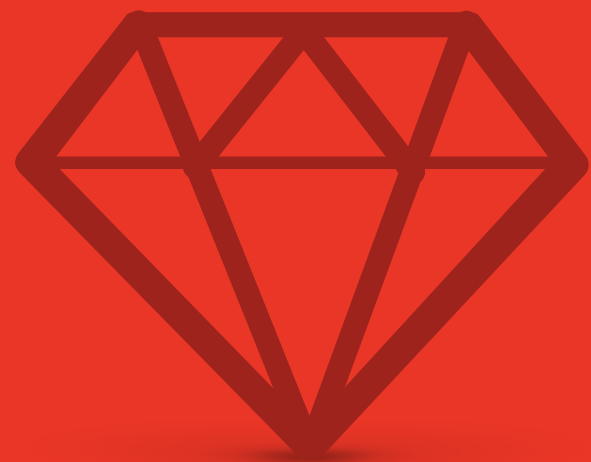
=> 3

2.2.2 :003 > 7 % 2

=> 1

2.2.2 :004 > 7.0 / 2

=> 3.5



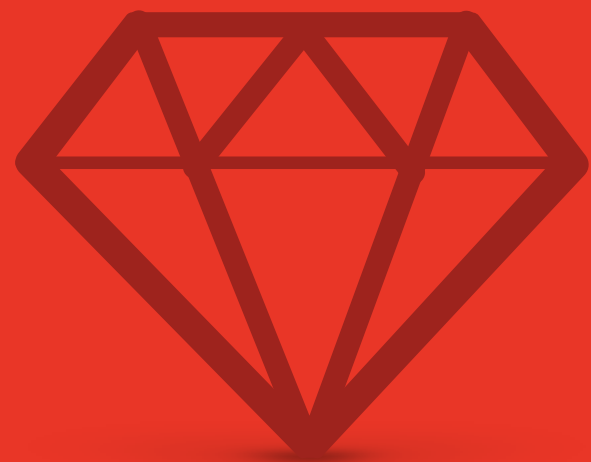
# Operators: arithmetic

```
2.2.2 :005 > 3 * 2
```

```
=> 6
```

```
2.2.2 :006 > 3 ** 2
```

```
=> 9
```





# Operators: comparison

```
2.2.2 :001 > 1 == 1
```

```
=> true
```

```
2.2.2 :002 > 1 == 2
```

```
=> false
```

```
2.2.2 :003 > 1 != 2
```

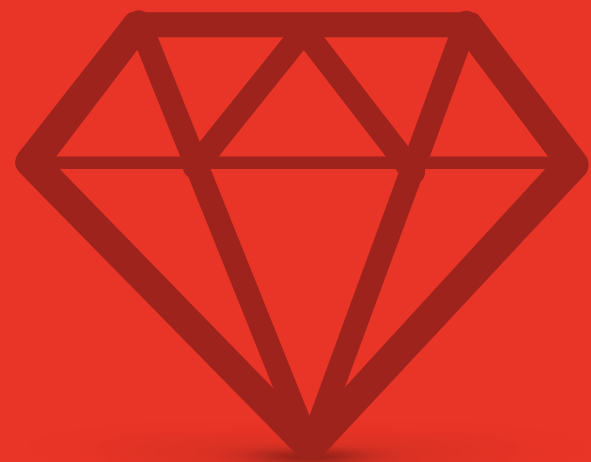
```
=> true
```

```
2.2.2 :004 > 1 < 2
```

```
=> true
```

```
2.2.2 :005 > 2 <= 2
```

```
=> true
```



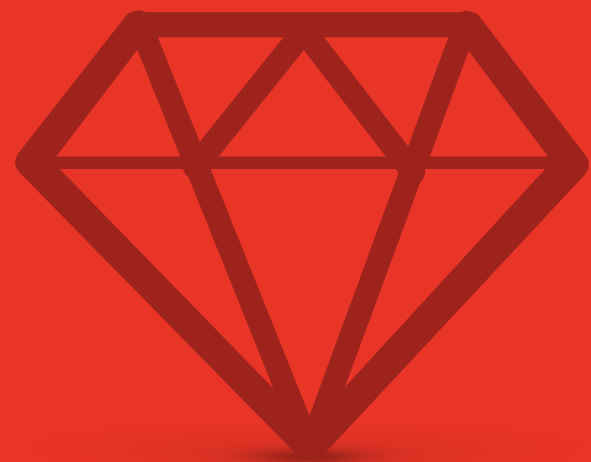
# Operators: comparison

```
2.2.2 :006 > 1 == 1.0
```

```
=> true
```

```
2.2.2 :007 > 1.eql? 1.0
```

```
=> false
```





# Operators: logic

```
2.2.2 :001 > false or true
```

```
=> true
```

```
2.2.2 :002 > false and true
```

```
=> false
```

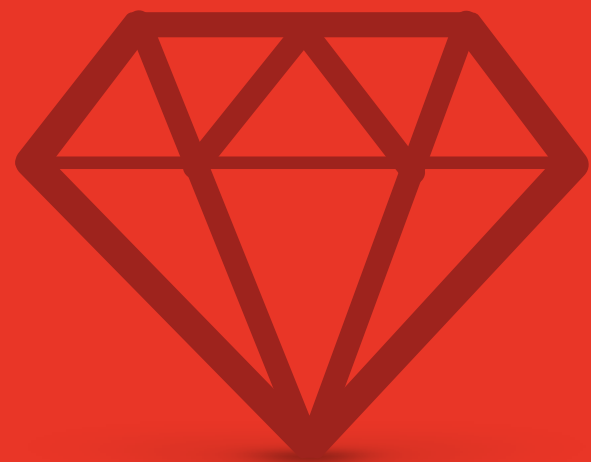
```
2.2.2 :003 > not true
```

```
=> false
```

```
or == ||
```

```
and == &&
```

```
not == !
```



# Operators: assignment

```
2.2.2 :001 > number_of_hamsters = 10
```

```
=> 10
```

```
2.2.2 :002 > number_of_hamsters
```

```
=> 10
```

```
2.2.2 :003 > greeting = "Welcome to the world of Ruby"
```

```
=> "Welcome to the world of Ruby"
```

```
2.2.2 :004 > greeting
```

```
=> "Welcome to the world of Ruby"
```



# Operators: assignment

```
2.2.2 :005 > number_of_hamsters = 6
```

```
=> 6
```

```
2.2.2 :006 > number_of_hamsters += 2
```

```
=> 8
```

```
2.2.2 :007 > course_title = "Development"
```

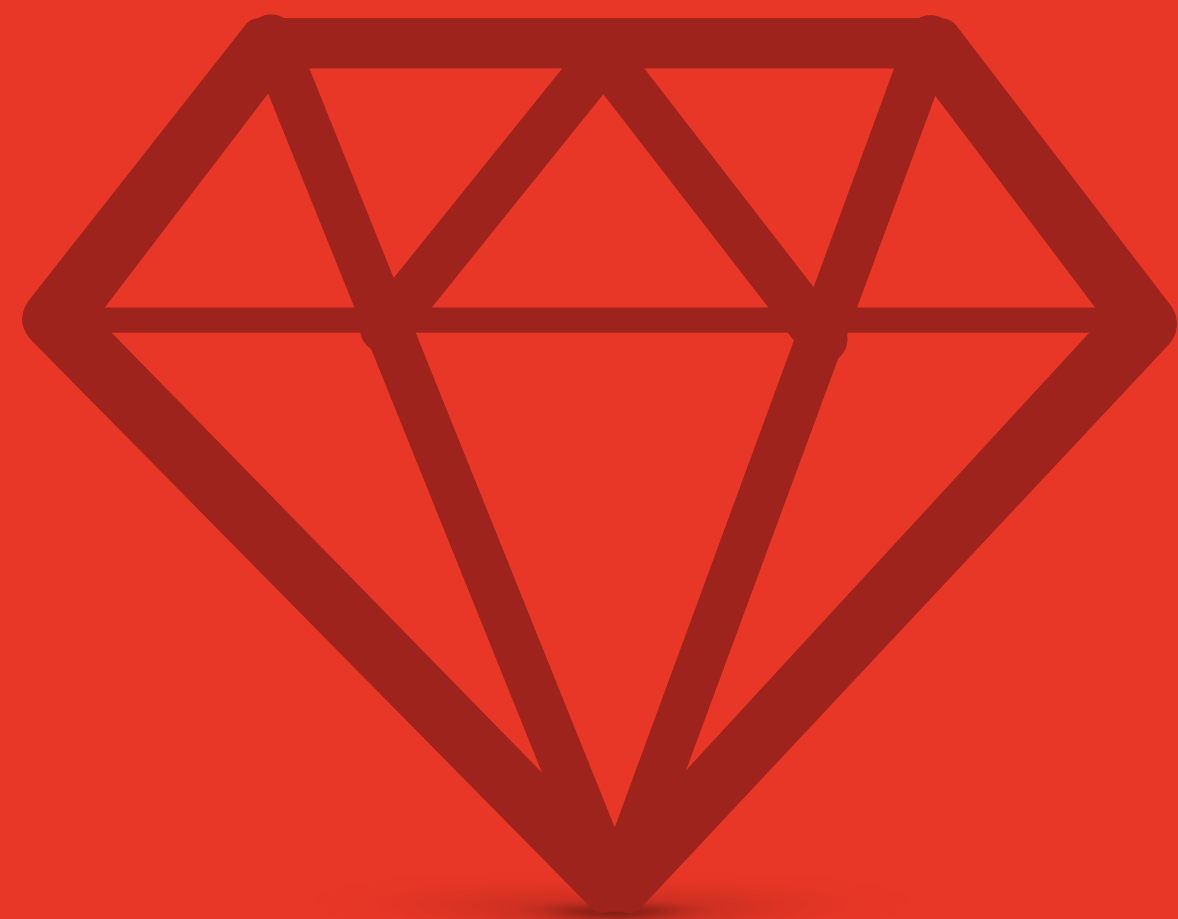
```
=> "Development"
```

```
2.2.2 :008 > course_title += "Bootcamp"
```

```
=> "DevelopmentBootcamp"
```

```
2.2.2 :009 > course_title = "Development" + "Bootcamp"
```

```
=> "DevelopmentBootcamp"
```



# Methods

Man!



# Methods: **types**

## Kernel

```
puts "Hello World!"
```

## Object

```
"Hello!".length
```



# Methods: Kernel

```
2.2.2 :001 > puts "Hello World"
```

```
Hello World
```

```
=> nil
```

```
2.2.2 :002 > name = gets
```

```
Joost
```

```
=> "Joost\n"
```

```
2.2.2 :003 > name
```

```
=> "Joost\n"
```

# Methods: Object

```
2.2.2 :001 > "Hello World".class
```

```
=> String
```

```
2.2.2 :002 > "Hello World".nil?
```

```
=> false
```

```
2.2.2 :003 > "Hello World".length
```

```
=> 11
```

# Methods: Object

```
2.2.2 :004 > name = gets
```

```
joost
```

```
=> "joost\n"
```

```
2.2.2 :002 > name.chomp
```

```
=> "joost"
```

```
2.2.2 :003 > name = name.chomp.capitalize
```

```
=> "Joost"
```



# Methods:

## if

```
2.2.2 :001 > if true
2.2.2 :002?>  "yes"
2.2.2 :003?> else
2.2.2 :004?>  "no"
2.2.2 :005?> end
=> "yes"
2.2.2 :006 > if false
2.2.2 :007?>  "yes"
2.2.2 :008?> else
2.2.2 :009?>  "no"
2.2.2 :010?> end
=> "no"
```

# Methods:

## if

```
2.2.2 :001 > if true
2.2.2 :002?> puts "Faith restored"
2.2.2 :003?> end
Faith restored
=> nil
```

# Methods: modules

```
2.2.2 :001 > Math.sqrt(9)
```

```
=> 3.0
```

```
2.2.2 :002 > Random.new.rand
```

```
=> 0.31234.....
```

# Methods: custom

```
2.2.2 :001 > def greet
2.2.2 :002?>  puts "Hello!"
2.2.2 :003?> end
=> :greet
2.2.2 :004 > greet
Hello!
=> nil
```

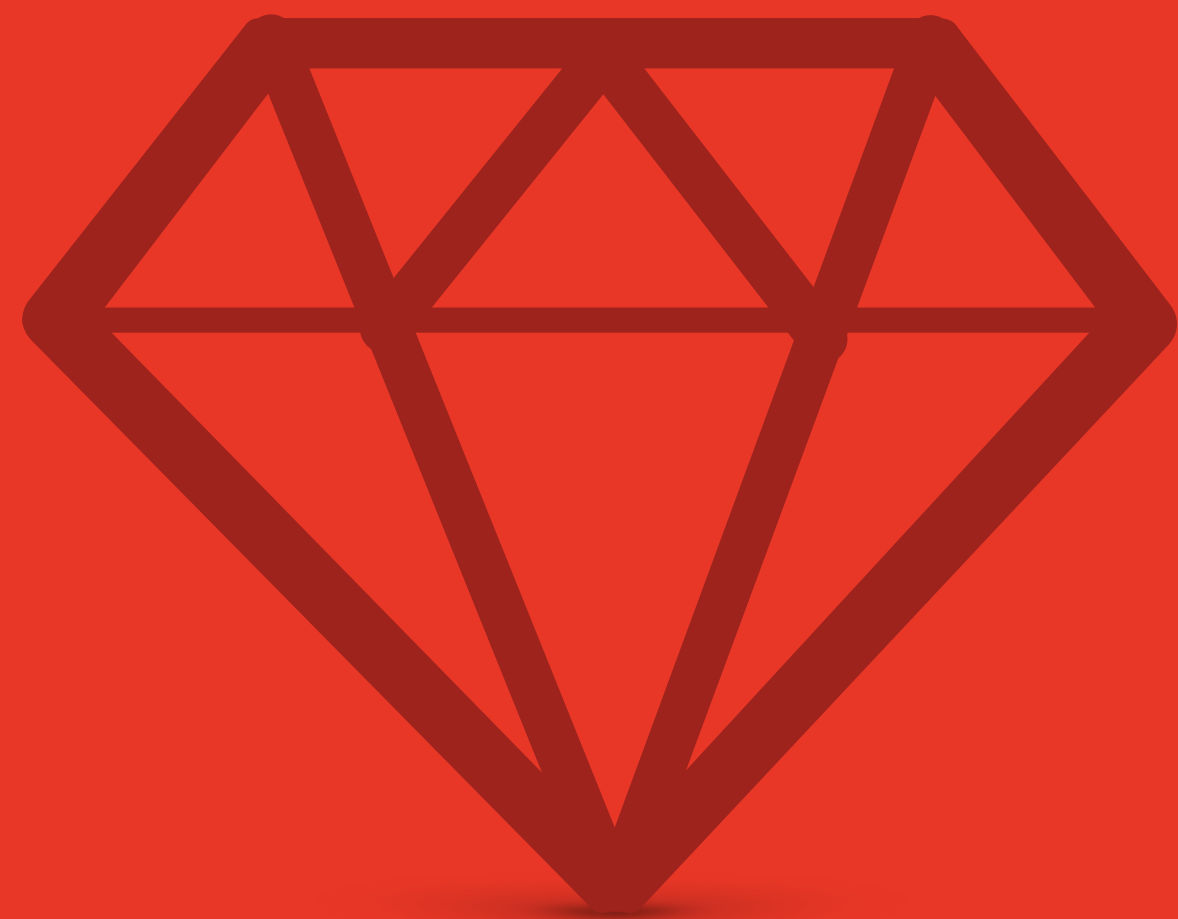


# Methods: arguments

```
2.2.2 :001 > def greet(name)
2.2.2 :002?> puts "Hello #{name}!"
2.2.2 :003?> end
=> :greet
2.2.2 :004 > greet "joost"
Hello joost!
=> nil
```

# Methods: return

```
2.2.2 :001 > def greet(name)
2.2.2 :002?>   puts "Hello #{name}!"
2.2.2 :003?>   return name.length
2.2.2 :004?> end
=> :greet
2.2.2 :005 > greet "joost"
Hi joost!
=> 5
```



# Ruby Files

Her taxes

# Ruby Files



```
my-machine:~$ ruby hamster_catcher.rb
```

A terminal window with a light gray title bar containing three black window control buttons. The main area is dark gray and contains the command `my-machine:~$ ruby hamster_catcher.rb` in a monospaced font. The prompt and file name are highlighted in yellow.