

# Introduction to Ruby

# Our Goals

- History of Ruby
- Installation of Ruby
- Ruby building blocks
  - Data types
  - Variables
  - Conditionals
  - Control Structures
  - Methods

# Important Links

- [The Ruby programming language](#)
- [Ruby on Github](#)
- [Ruby Docs](#)
- Yukihiro "Matz" Matsumoto
  - [Twitter](#)
  - [Github](#)
- [AirBnB Styleguide](#)
- [The Ruby Style Guide](#)

# History of Ruby

- First released in 1993
- Version 1 in 1996
- Version 1.8 in 2003
- Rails released in 2005
- Mac OS X starts having Ruby by default in 2007
- Currently at Version 2.3.1

# Philosophy of Ruby

- "Making programmers happy"
- There is more than one way to do it
- There is no perfect programming language
- Principle of least astonishment

# Installation of Ruby

1. Get some developer tools
2. Install [RVM](#)
3. Include RVM in your startup scripts and PATH
4. Install and use a version of Ruby
5. Install common gems

# Developer Tools

```
xcode-select --install
```

# Install **RVM**

```
curl -sSL https://get.rvm.io | bash -s stable
```

Open up your `.bash_profile`

```
atom ~/.bash_profile
```

Add these to the end of the file and save it

```
[[ -s "$HOME/.rvm/scripts/rvm" ]] && source "$HOME/.rvm/scripts/rvm"  
export PATH="$PATH:$HOME/.rvm/bin"
```



# Restart the terminal

```
rvm  
rvm list known  
rvm get stable --auto-dotfiles
```

# Find the most recent version

here

```
rvm install ruby-2.3.1  
rvm --default use 2.3.1
```

# Let's test that it worked

```
ruby -v  
rvm -v  
  
which ruby
```

Then install some gems

```
gem install lolcat  
gem install pry  
brew install fortune  
brew install cowsay  
brew install ponysay  
brew install cmatrix
```

# Some common commands

- `ruby -v`
- `which ruby`
- `ruby hello_world.rb`
- `irb`
- `pry`
- `<CTRL> + D`

# Data Types

- Strings
- Numbers
- Arrays
- Hashes (like objects)
- Methods (like functions)
- Symbols

# Strings

```
# Double and single quotes will both work,  
# but there are a few differences  
  
'Hello World'  
"Hello World"  
  
# Double quotes have interpolation!  
  
'2 + 2 = #{ 2 + 2 }'  
"2 + 2 = #{ 2 + 2 }"  
  
# You can see all the methods!  
  
"Hello World".methods
```

# Arithmetic

```
10 + 4  
10 - 6  
10 * 12  
10 / 12
```

```
10 < 12  
12 > 10  
10 >= 10  
12 <= 12
```

```
10 == 10 # Use double equals in Ruby!  
10 === 10
```

```
10 != 9
```

# Numbers

```
1.0
```

```
2.1512
```

```
1241
```

```
125125129
```

```
1294810294801284012840812908
```

```
2512159412125699832859328
```

```
# Behind the scenes...
```

```
# Complex, Rational, Bignum
```

```
# Float, Fixnum, Integer, BigDecimal
```



# Variables

```
this_is_ruby = true
this_is_a_string = "Yes, it is"
this_is_a_number = 1241
this_is_a_number += 1
this_is_a_number -= 1

empty_array = []
empty_hash = {}

name = "Gilberto"
drink = "Whiskey"

"My name is #{ name } and I drink #{ drink }"
```

# Getting user input

```
puts "What is your first name? "  
  
first_name = gets  
first_name = gets.chomp      # better  
  
puts "Your first name is #{ first_name }"  
  
puts "What is your last name? "  
  
last_name = gets.chomp  
  
puts "Your surname is #{ last_name }"  
  
puts "Your full name is #{ first_name } #{ last_name }"
```

# Conditionals - IF

```
if 42 > 13
    p "42 is a bigger number"
end

name = "Groucho"
if name == "Harpo"
    # Do something
elsif name == "Chico"
    # Do something else
else
    # Do something else
end

p "42 is bigger" if 42 > 13
```

# Conditionals - UNLESS

```
x = 1
unless x > 2
  puts "x is less than 2"
else
  puts "x is greater than 2"
end

code_to_perform unless conditional
```

# Conditionals - CASE

```
hour = 15

case hour
when hour < 12
  puts "Good Morning"
when hour > 12 && hour < 17
  puts "Good Afternoon"
else
  puts "Good Evening"
end
```

# Logical Operators

```
true && true  
true and true
```

```
true || false  
true or false
```

```
!true
```

Have a crack at **these**  
**exercises**

# Loops - WHILE

```
while conditional
  # Statements to execute
end

while true
  puts "This is a great idea"
end

i = 0
while i < 5
  puts "I: #{ i }"
  i += 1
end
```



# Loops - UNTIL

```
until conditional
  # Statements to execute
end

i = 0
until i == 5
  puts "I: #{ i }"
  i += 1
end
```

# Loops - ITERATORS

```
5.times do  
  puts "Wow"  
end
```

```
5.times do |i|  
  puts "I: #{i}"  
end
```

```
5.downto(0) do |i|  
  puts "I: #{ i }"  
end
```

```
5.upto(10) do |i|  
  puts "I: #{ i }"  
end
```

# Loops - FOR

```
# DON'T USE THEM!  
  
for i in 0..5  
  puts "I: #{ i }"  
end
```

# Generating random numbers

```
# Generates a number between 0 and 1
```

```
Random.rand
```

```
# Generates a random number up to 10 (including zero and 10)
```

```
Random.rand(10)
```

```
# Generates a number between 5 and 10 (also includes them)
```

```
Random.rand(5..10)
```

```
# Does not include 5 and 10
```

```
Random.rand(5...10)
```

Have a crack at **these**  
**exercises**

# Methods

```
def hello
  puts "Hello World"
end

hello
hello()

def hello( name )
  puts "Hello #{ name }"
end

hello "Roget"
hello( "Roget" )
```

# Methods

```
def hello( name = "World" )  
  puts "Hello #{ name }"  
end
```

```
hello  
hello()  
hello "Roget"  
hello( "Roget" )
```

Here is **your homework**