

Ruby Basics One

A brief history of Ruby

- Written by Yukihiro "Matz" Matsumoto in the mid 1990s
- Implemented in C
- "I hope to see Ruby help every programmer in the world to be productive, and to enjoy programming, and to be happy. That is the primary purpose of Ruby language." - Matz

Ruby Versions

- Ruby comes in many versions and types
- We'll be using "MRI", or "Matz's Ruby Interpreter", written in C
- The latest version number can always be found at ruby-lang.org/en
- To see what version you're running, type `ruby -v` at the command line

Working with Ruby

- Ruby is stored in .rb files
- To run a .rb file, cd to it on the command line and type `ruby filename.rb`

```
$ cd ~/dev/my_project_dir  
$ ruby filename.rb
```

Working with Ruby - IRB

- IRB stands for "Interactive Ruby Shell"
- Ruby can be run line by line directly in IRB, providing a console that allows you to quickly test lines of Ruby without running a script
- To launch IRB, type `irb` in any open Terminal window and press enter

Requiring other scripts in IRB

- Sometimes it will be beneficial to require an existing Ruby script in IRB
- To do so, use `require './myscript.rb'`
- This isn't a good way to simply run a script and see its output (use `ruby filename.rb`), rather to require existing Ruby methods and definitions

Exercise: Working with Ruby

- Try creating a new file, `test.rb`
- Inside the file, put the most basic Ruby program:

```
puts "Hello World"
```
- Try running the program by `cd`-ing to the directory it's in and typing `ruby test.rb`

Variables

To declare a variable in Ruby, use this syntax:

```
my_var = "Fifteen"
```

```
z100 = 100.3
```


Data types in Ruby

Ruby has a couple of different data types

- Floating Point (`Float`)
 - Numbers with decimal points
 - `10.32`, `65.323`, `.43`
- Integers (`Fixnum`)
 - A number without a decimal
 - `-11`, `2000`, `42`, `0`, `-1`

Data types in Ruby

- Strings (String)
 - A line of text
 - "Jon", "12", "Nuclear washing cereal machine"
 - Symbols (Symbol)
 - A colon followed by some words or a string
- : january, : "hello world"

Data types in Ruby

- Booleans (TrueClass, FalseClass)
 - literally true or false
 - true, false

Data types in Ruby

- Arrays (Array)
 - A collection of values
 - `[5, 4, 3, "omega", 15.9, "cappa"]`
- When assigned to variables, can be accessed with brackets

```
a = [5, 4, 3, "omega", 15.9, "cappa"]
```

```
a[0]
```

```
> 5
```

Data types in Ruby

- Hashes (Hash)
 - Another way to store data, similar to an array
 - Used to store key => value pairs
 - `myHash = {jan: "January", feb: "February"}`
 - To access a value:
`myHash[:jan]`

Exercise

- Write a simple Ruby program with the following features:
 - Creates a variable called `name`, sets it equal to your name, then outputs the variable
 - Assigns a new array to a variable called `holidays` with a list of holidays inside of the array as strings
 - Creates a new hash assigned to a variable called `holidays_and_dates` - the keys should be a holiday and the values should be the date it is celebrated, both strings