
FUNDAMENTALS

OBJECT ORIENTED PROGRAMMING

REVISION

- Collections
 - Array - Ordered (numerical label starting at 0)
 - Hash - Ordered (custom label)
- Re-use & Organisation
 - Methods
 - Modules
- JSON
 - Data transport format
 - XML - other common transport format

FUNDAMENTALS

VARIABLE SCOPE

VARIABLE SCOPE

- Method level scope
 - The variable is only visible to the method
- Block level scope
 - The variable is only visible to the block
- Global variables
 - Do exist in Ruby
 - Not going to teach... why?
 - They are VERY VERY BAD!

FUNDAMENTALS

BUSINESS APPLICATIONS

- Purpose
 - Solve problems
- How?
 - Build an app to:
 - Model the real world
 - Static attributes
 - Dynamic attributes

MODELLING: PHASE 1



PERSON

Name

No of dependents

Gender

Occupation

Date of birth

Annual income

MODELLING: PHASE 1



ADDRESS

street1

street2

suburb

state

post code

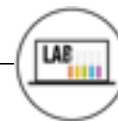
country

address type



MODELLING RELATIONSHIPS

- How do we model a relationship between the person and their addresses?
 - Thoughts?



DYNAMIC ATTRIBUTES

- We have the static attributes
- Let's add dynamic attributes
 - Add age
 - Add tier
 - $< 100\text{k}$ annual income \rightarrow Tier 1
 - $\geq 100\text{k}$ and $< 200\text{k}$ \rightarrow Tier 2
 - $\geq 200\text{k}$ \rightarrow Tier 3



FUNDAMENTALS

CAN WE DO BETTER?



SOMETHING SOMETHING SOMETHING

- › How do we group logically related methods?
 - › Modules
 - › How do we defined these methods?
 - › How do we call this methods?



FUNDAMENTALS

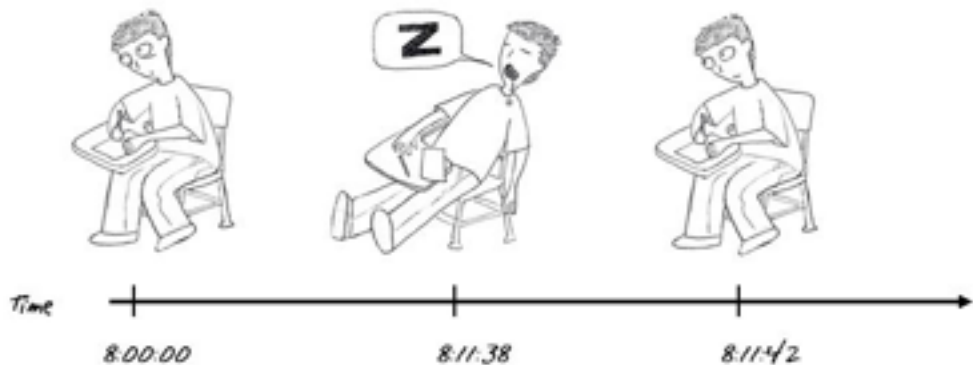
CLASSES

FUNDAMENTALS

CLASSES

- Used to group related
 - Static Attributes
 - Dynamic Attributes
 - Methods
- Keyword
 - CLASS

Do not sign up for 8 AM classes. The only useful thing you will ever learn in them is how to induce 4-second refreshing REM cycles while your professor scribbles something on the board.



Although, that might actually be something worth knowing...



CLASSES Cont..

- **Class** is a definition
 - Specify the attributes
- **Object** is actual in memory object with values
 - Simple way to differentiate:
 - Objects have values
 - Classes define what the attributes are

FUNDAMENTALS

CLASS RULES

- Names use Pascal casing
- File names use Snake casing
- Put a Ruby class in it's own file

FUNDAMENTALS

OBJECTS



OBJECTS

- How to create an object?
 - new keyword
 - What is new?
 - More about this magic keyword in CLASS 6

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RELATIONSHIPS



CLASS METHODS

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SCOPE



SCOPE

- Method variables have method scope
- Block variables have local scope
 - Object attributes have instance scope
 - Accessed via `@instance` variables

INSTANCE METHODS

FUNDAMENTALS

HOMework!