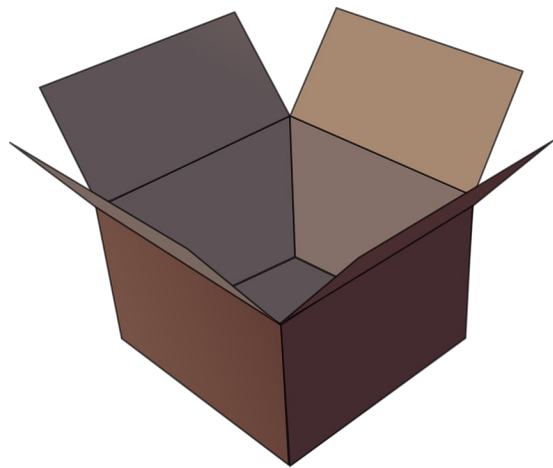


# Learning Python Review

## Part One

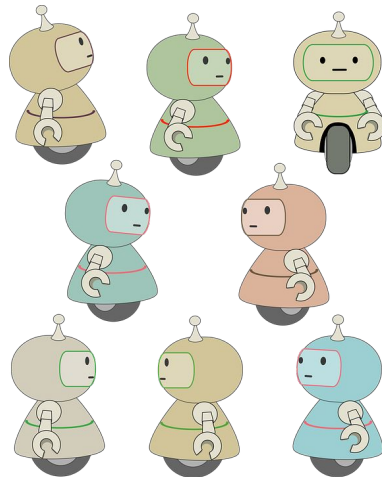
# Variable

- X is a variable
- Variable is a box, that can hold different data in it.
- The name of the variable is the label of the box
- You can change what is in the box,
  - by doing assignment operation
  - `x = 10`
  - `x = "a" // quotes`
  - `x = "apple"`
  - `x = True`
- Python compiler always want to know what is in the box.
- If there is nothing in the box, we can assign variable to None



# Data Types

- There are **four** basic types of data in python
  - Different data type supports different operations
- Number
  - Integer or decimal
  - math operations
- String - Quotes
  - Index operations
  - concatenate operation
- True/False
  - Logical operations
  - And/or
- None



# Math operation on numbers

- $x = 1$
- $x = x + 1$
- $y = 2$
- $x = x + y$
- $x = 3 * x$
- $y = x / 5$  // Integer and decimal
- $y = y * 5$



# String operation

- Index operation
  - `x = "play"`
  - `print (x[0])`
  - `print (x[1])`
- Concatenate operation
  - `x = 'apple'`
  - `y = ' is '`
  - `z = x + y + 'sweet'`



# List

- A list is a collection of data
- You can mix the data types in a list
- List has order and indexes
- String is a list of characters
  - Index operation
  - Concatenate operation
  - `x = [1]`
  - `y = [2]`
  - `print (x + y)`



# Indentation

- The spaces before your code starts in the line
- Signify code blocks, it has to be aligned.
  - Conditional
  - Loop
  - Function

# If/else conditionals structure

- Test on True/False
- True can be 1, 'a', "apple", [1]
- False can be None, '', [], 0