



**Brock University Library**  
Digital Scholarship Lab

# Introduction to Python

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## Variables - The Basics

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Basic structure is `variable = value`. Variables can be many things, numbers, letters, and lists.

EG. ratio between kilograms and pounds `kg_to_lbs = 2.2`

EG. list of x,y coordinates of a point `origin = [0,0]`

## Variables - Dictionaries

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More complicated variable that has a `value` and a `key`

EG.

```
stocks = {  
    "IBM": "International Business Machines",  
    "GOOGL" : "Alphabet Inc",  
    "AAPL": "Apple Inc"  
}
```

EG. `print(stocks["GOOGL"])`

displays `Alphabet Inc`

## Doing Math

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Symbol	Operation
*	multiplication
+	addition
-	subtraction
%	remainder
/	division

## Loops

Allow us to repeat the same thing a few times

```
crayon_colours = ["red", "blue", "yellow"]
for crayon in crayon_colours:
    print(crayon)
```

## Conditionals

Allow us to compare to values

Operator
==
>=
<=
<
>
!=

## Conditionals with Boolean

Allow us to combine conditionals

Operator
and
or
not

## Functions

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We can use predefined bits of code if they are turned into functions.

EG. `len(some_variable)` will print out how long the variable is. If a list, then how many items. If some text, how many characters.

Making our own, you follow this prototype

```
def function_name(parameter):  
    value = 0  
    # do some stuff  
    return value
```