introduction to python
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ALGORITHMS... not scary

* Algorithm is a big buzz world in computer programming
* A set of steps to complete a problem

Ex: 1. Directions to get somewhere
"Walk down the hall, make a left"

PRINT STATEMENTS

▷ They are a way to print something out when your program runs

```
print("Hi, we are studying")
print("We love this course!")
```

COMMENTS

▷ They can be used to explain something in your code, make it more readable.

```
#This is a comment
# It does not get run
```

VARIABLES

▷ They are containers for storing data values

Variable Type	Examples
Integer	1, 2, -5, 20
Float	3.141592, -2.71
String	"Hello"
List	[1, 3, 5, 7]

~ Variable names cannot start with a number
~ Variable names cannot contain spaces
~ They cannot contain special characters
~ They cannot be a Python reserved word

```
my_name = "meteorite"
print("I am " + my_name)
```

ARITHMETIC

Operator	Examples
Addition	2 + 3 = 5
Subtraction	5 - 3 = 2
Multiplication	4 * 2 = 8
Division	12 / 4 = 3

```
print(3 + 3)
print(14 / 7)
```

Comparison operators

Variable Type	examples
Boolean	True, False.

▷ OPERATORS

> means greater than

>= means greater or equal than/to

< means less than

<= means less or equal than/

== means equal to

!= means not equal to

```
print (5 < 2) # It's false
print (7 > 6) # It's true
```

LISTS

▷ We can store multiple things together with them

```
my_list ["Maths", "Physics", "Coding"]
```

▷ EXTRACTING

```
z = [3, 5, 6, 8]
print (z[0]) # It's 3
print (z[1]) # It's 5
```

▷ ADDING

```
days = ["Monday", "Tuesday", "Wednesday"]
days.append ("Thursday")
days.append ("friday")
```
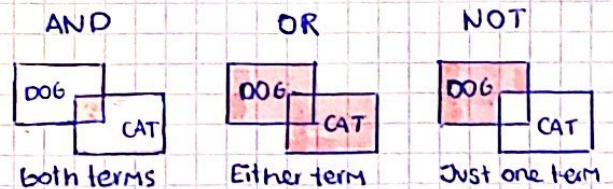
▷ REMOVING

```
days = ["Monday", "Tuesday", "Wednesday"]
days.remove ("Wednesday")
```

BOOLEAN LOGIC

Ex: I have a dog. I do not have a cat

AND   OR   NOT

both terms   Either term   Just one term

```
dog and cat # False
dog or cat # True
not cat # True
```

INPUT AND OUTPUT

▷ Right now we can print something in our program, but the user can't give us any information in return

storing input in a variable

```
variable = input ("What is your name?")
```