



PYTHON PROGRAMMING: INTRODUCTION & INSTALLATION

❖ General Purpose Language:

- ☐ Machine Learning AI
- ☐ GUI, Web, Software Dev

❖ Download Install & Run:

- ☐ <https://www.python.org>
- ☐ Start > Python IDLE
- ☐ Write a line of code
e.g. 2+3 OR print("Hello World")

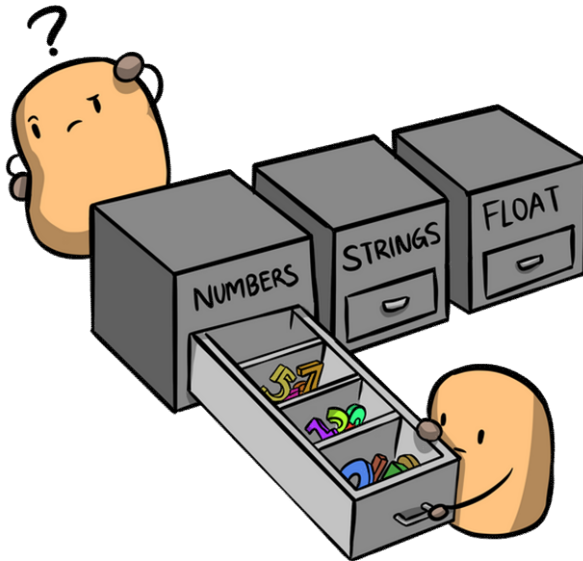
❖ Python Features:

- ☐ Interpreted
- ☐ Object oriented
- ☐ High Level
- ☐ Current version 3.x

❖ Community version of PyCharm IDE:

- ☐ <https://www.jetbrains.com/pycharm/download>
- ☐ Install 64 bit (depending on system)
- ☐ Start > PyCharm > Create New Project > filename.py
- ☐ print("Hello World")
- ☐ Run the file

PYTHON PROGRAMMING: VARIABLES & STRINGS



❖ Types:

- ❑ **int** e.g. 4, 1000, -34 etc.
- ❑ **float** e.g. 33.4, -0.0005
- ❑ **string** e.g. 'My friend Tom', 'cricket' etc.

❖ Assignment:

- ❑ `x = 2`
- ❑ `name = 'Rupa'`

❖ Strings:

A	n	o	d	i	a	m		R	o	c	k	s	
0	1	2	3	4	5	6	7	8	9	10	11	12	→index
-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	

Strings are immutable:

```
str1 = "My Name"
```

```
str1[3] = 'n'      # Error
```

❖ Lists: []

- ☐ Mutable
- ☐ E.g.: myList = [23, 91, 9, 507]
- ☐ Functions used in List:
 - append()
 - insert()
 - remove()
 - pop()
 - clear()
 - extend()
 - max(list)
 - min(list)
 - sum(list)
 - sort()
 - sort(reverse=True)

❖ Tuples: ()

- ☐ Immutable
- ☐ Iteration is faster than list
- ☐ E.g.: myTuple = (23, 91, 9, 507)

❖ Sets: { }

- ☐ Like mathematical sets: do not consider repetition
- ☐ E.g.: mySet = {23, 91, 9, 507, 91}
- ☐ Uses hashing for performance
- ☐ No index for sets
- ☐ Mutable
- ☐ Functions used in Set:
 - add()
 - remove()
 - set1.update(set2)

	Mutable	Ordered	Indexing / Slicing	Duplicate Elements
List	✓	✓	✓	✓
Tuple	✗	✓	✓	✓
Set	✓	✗	✗	✗