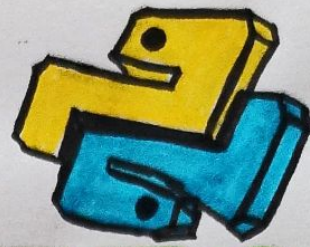
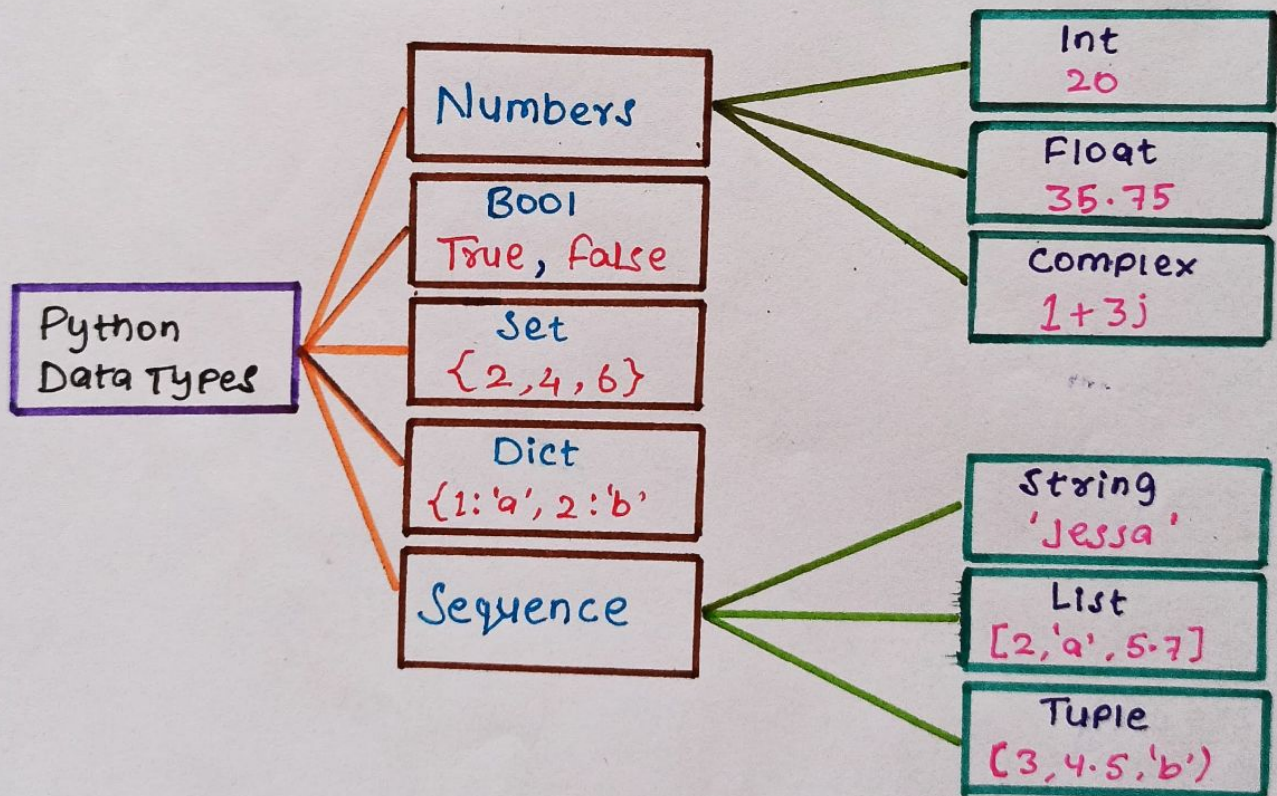


# PYTHON SHORT NOTES



## ★ What is Python?

- > Python is a high-level, interpreted, interactive, and object oriented scripting language. Python is designed to be highly readable. It uses English Keywords frequently where as other languages use punctuation.



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## ★ Advantages & Disadvantage.

Advantages	Disadvantages
<ul style="list-style-type: none"><li>• Improved productivity</li><li>• Interpreted language</li><li>• Dynamic Typed</li></ul>	<ul style="list-style-type: none"><li>• Slow speed</li><li>• Not memory Efficient</li><li>• Database Access.</li></ul>

Continue →



- Free & open source
- Vast Libraries support

- Runtime Errors.
- Weak in mobile computing.

## ★ Hello, World in Python

> `print("Hello, World!")`

Output :-

Hello, World !

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## ★ LOOP

A loop statement allows us to execute a statement or group of statements multiple times.

### TYPES OF LOOP

#### 1. While loop

↳ Repeat a statement while a given condition is true. It tests condition before executing.

#### 2. For Loop

↓  
Executes a sequence of statements multiple times and abbreviates code that manages loop variable.

#### 3. Nested Loop.

you can use one/more loop inside any other loop.

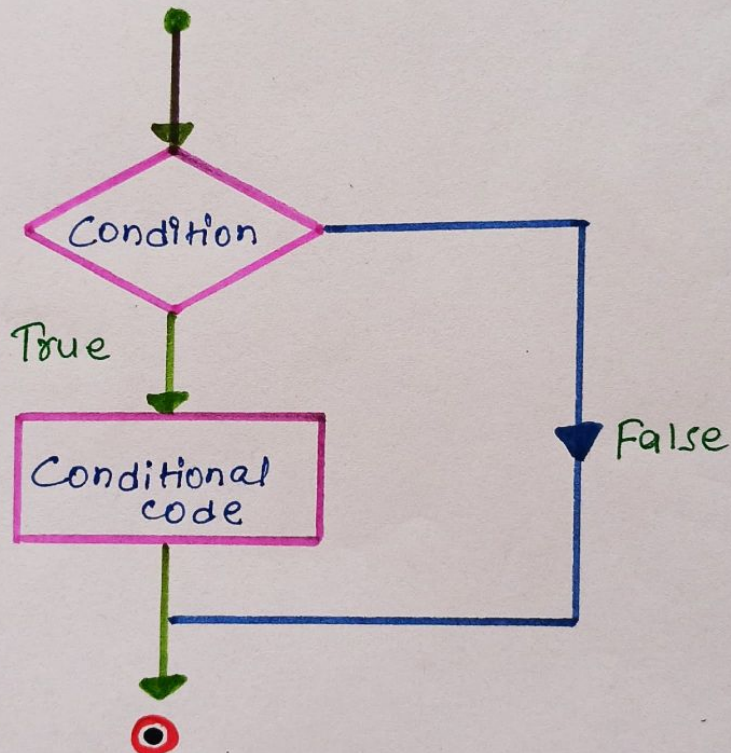


## ★ Basic Tuple operation

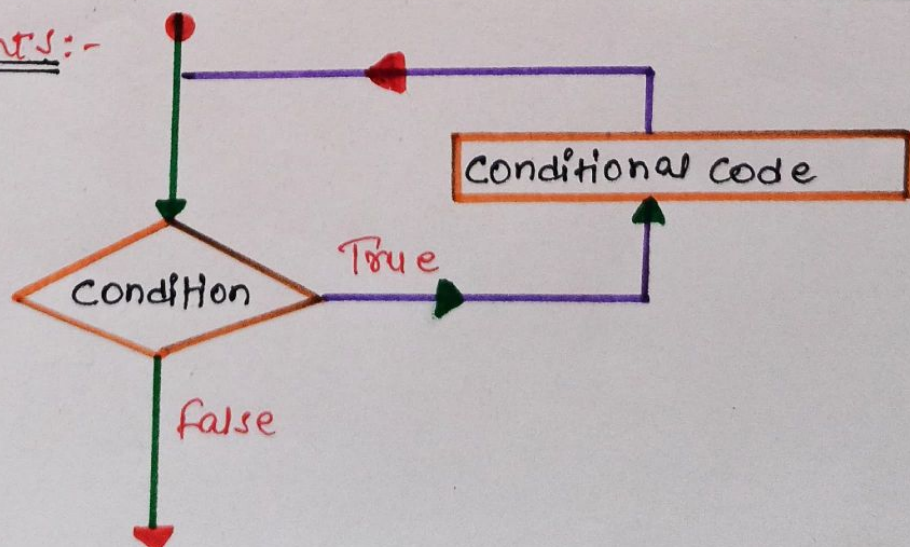
Python Expression	Results	Description.
<code>len((1, 2, 3))</code>	3	length
<code>(1, 2, 3) + (4, 5, 6)</code>	<code>(1, 2, 3, 4, 5, 6)</code>	concatenation
<code>('Hi!') * 4</code>	<code>('Hi!', 'Hi!', 'Hi!', 'Hi!')</code>	Repetition
<code>3 in (1, 2, 3)</code>	True	Membership
<code>for x in (1, 2, 3): Print x,</code>	1, 2, 3	Iteration

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## ★ Python Decision Making



## ★ LOOP Statements:-





Tuples responds to the + and \* operators. much like 'strings', then they mean concatenation and repetition here too. except that result is a new tuple, not a string.

In fact, tuples respond to all the general sequence operations we used on strings.

### ★ Syntax : Java vs Python

Unlike other programming languages, Python provides the facility to execute the code using few lines.

In Java, it will take three lines to print it.

// Code in Java :

```
public class HelloWorld {  
    public static void main (String [] args) {  
        System.out.println("Hello, World!");  
    }  
}
```

On the other hand, we can do this using one line.

```
# Code in python  
print("Hello!!")
```

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### ★ Dictionaries :-

votes = {'red': 3, 'blue': 5}	
Votes.keys()	# Output: ['blue', 'red']
votes['gold'] = 4	# add a key/val
del votes['gold']	# deletes key
votes['blue'] = 6	# change value
len(votes)	# 2
votes.values()	# [6, 3]
'green' in votes	# False
votes.has_key('red')	# True



## ★ Numbers :-

<code>total = 3 * 3</code>	<code># Output : 9</code>
<code>total = 5 + 2 * 3</code>	<code># Output: 11</code>
<code>Cost = 1.50 + 3.75</code>	<code># Output: 5.25</code>
<code>total = int("9") + 1</code>	<code># Output: 10</code>

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## ★ Tuples :-

Like lists, except they cannot be changed

<code>tuple 1 = (1, 2, 3, "a", "z")</code>	<code># create tuple</code>
<code>tuple 1 [3]</code>	<code># 'a'</code>

## ★ List :-

<code>scores = ['A', 'c', 90, 75, 'c']</code>	
<code>scores [0]</code>	<code># Output: 'A'</code>
<code>scores [1:3]</code>	<code># 'c', 90</code>
<code>scores.count('c')</code>	<code># 2</code>
<code>scores.append(100)</code>	<code># Adds 100 to list</code>
<code>scores.pop()</code>	<code># removes third item.</code>



# INTERVIEW QUE.

## ★ What is scope?

- Every object in python functions within a scope. A scope is a block of code where an object in python remains relevant. Namespaces uniquely identify all the objects inside a program.

However, these namespaces also have a scope defined for them where you could use their objects without any prefix.

- A local scope refers to the local objects available in the current function.
- A global scope refers to the objects available through the code execution since their inception.
- A module-level scope refers to the global objects of the current module accessible in the program.
- An outmost scope refers to all the built-in names callable in the program. The object in this scope are searched last to find the name referenced.



## ★ What are global, Protected & Private attributes?

### > • Global variable:

Global variables are public variables that are defined in the global scope. To use the variable in the scope inside a function we use global keyword.

### • Protected attribute:

Protected attribute are attributes defined with an underscore prefixed to their identifier.

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### • Private attribute :

Private attributes are attributes with double underscore prefixed to their identifier.

eg. --atul.

They cannot be accessed/modified from the outside directly and will result in `AttributeError` if such an attempt is made.