

## Python

Boolean variables:-

Boolean variable is consist of two values "True" and "False".

If we want to change variable type to Bool then we only have to apply function Bool(~~Variable~~)

Boolean and logical operators:-List variables:-

Lists are defined as values in square brackets [].

⇒ len() function used <sup>to know</sup> the size of list

⇒ Append:- Append() should add value in end of the list

Example:- a.append("Tayoor")

and here is a thing if we want to start nested ~~list~~ then

We can also do like this.

Append(["Tayoor", "Ali "])

⇒ Slicing:- Slicing is used as indexing if we want print or access middle values of the list

Example: `a = [1, 2, 3, 4, 5, 6, 7]`

`Print(a[2:6])`

then it will print `[3, 4, 5, 6]`

: is used for slicing

⇒ Indexing:- to get access of any single index of list we use indexing

Example:- `Print(a[2])` Result is = 3

⇒ `Insert()`:- To add value on specific index then we use `Insert()` instead of `Append()`.

Example:- `a.insert(1, "Ali")`

`a = [1, Ali, 2, 3, 4, 5, 6, 7]`

⇒ `Pop()`:- This function is used to delete last value from list.

⇒ `Count()`:- Count is used to get length of given elements. In list



Sets - A set is an unordered collection data type that is iterable, mutable and has no duplicate elements to define a variable as set use `{}`

⇒ Set Indexing:- There is no indexing in set

⇒ `add()`:- This function is used to add value in the end of set

Example:- `a = {1, 2, 3}`, `b = {1, 2, 3}`

`a.add("Tayoor")`

Then `a = {1, 2, 3, Tayoor}`

⇒ `difference()`:- This function is used to get value between two set that are not common

example:- `b.difference(a)` gives `{'Tayoor'}`

⇒ `Intersection()`:- This function is used to get value b/w two sets that are common

example:- `b.intersection(a)` gives `{1, 2, 3}`

Dictionary:-

A dictionary is a collection which is unordered, changeable and indexed. dictionaries are written with curly brackets and they have keys and values.

Example Students = { "Student1": "Ahmed"  
"Student2": "Imran"  
"Student3": "Gnam" }

⇒ Simple Indexing:- we can get our value from Dictionaries by giving keys  
e.g.:- <sup>Student</sup> a["Student1"] gives 'Gnam'

⇒ Loop Indexing:- We can get our <sup>Keys</sup> from dictionary by giving loop  
Example:- for x in <sup>Student</sup> a:

Print (x)

gives keys only : Student1  
Student2  
Student3

and for retrieving values

example:- for x in <sup>Student</sup> a.values():  
print (x)



It gives Ahmed  
Amran  
Anam

for both key and values we use  
for x in <sup>student</sup> ~~or~~ items():

print(x)

gives ('student1', 'Ahmed')  
('student2', 'Amran')  
('student3', 'Anam')

⇒ Adding new elements:-

student['student 4'] = 'Tayoor'

⇒ Nested dictionary:- we can also

use a nested dictionary technique.

to <sup>make</sup> dictionary key as a dictionary

TUPLE:-

We cannot change the value  
of Tuple Tuple is created by round brace

⇒ count():- Used to count values in ()

Tuple

⇒ index():- It will give the address  
of value in tuple