

Basic PYTHON Notes

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NOTES GALLERY (TELEGRAM)

☐ What is a Python :

✓ Python is a simple, high level, General purpose and Object-Oriented Programming language.

☐ Why learn Python?

- Easy to use and learn.
- Expressive language.
- Interpreted language.
- Object-Oriented language.
- Open source language.
- Extensible
- Embeddable
- Dynamic Memory Allocation.
- GUI Programming Support.

☐ Where is Python used?

Data Science
Data Mining
Desktop Applications
Mobile Applications
Web Applications
Machine learning
3D CAD Applications
Speech Recognitions

NOTE :- There is no use of curly braces or Semicolon in python programming language.

Python First Program

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Program for Print Hello world

```
Print ("Hello world")
```

Python Popular Frameworks and Libraries

Web Development : Django, Flask, Pyramid, Cherry Py.

GUI based Applications : Tk, PyGTK, PyQt, PyJS.

Machine Learning : TensorFlow, PyTorch, Scikit-learn etc.

Mathematics : Numpy, pandas etc.

Python Variables.

Python variable is a name that is used to refer to memory location. Python variable is also known as an identifier and used to hold value.



→ In python, we don't need to specify the type of variable because python is an infer language and smart enough to get variable type.

Examples:

```
a = 5           // Integer Data Type.  
b = "Vedant"   // Character Data Type.  
u = 80.50      // Float Data Type.
```

```
print(a)  
print(b)  
Print(u)
```

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Output:

```
5  
Vedant  
80.50
```

Python loops.

The while loops

With the while loop we can execute a set of statements as long as a condition is true.

Example:

```
i = 1  
while i < 6:  
    print(i)  
    i += 1
```

The For loops

A For loop is used for iterating over a sequence. It is frequently used to traverse the data structures like list, tuple or dictionary.

The syntax of For loop:

For iterating - var in sequence :
Statement (S)

Example :

```
str = "Vedant"  
for i in str:  
    print(i)
```

Output :

V
e
d
a
n
t

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Example:

```
age = int(input("Enter your Age"))  
if age >= 18:  
    print("You are eligible to vote");  
else:  
    print("You are Not eligible to vote");
```


②.

The elif statement

The elif statement are used to check multiple conditions and executes the specific block of statements depending upon the true condition among them.

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Syntax :

IF conditions :

block of statements

elif condition 2 :

block of statements

elif condition 3 :

block of statements

elif condition 4 :

block of statements

else

Python function

Python function are the most important aspect of an application. A function can be defined as the organized block of reusable code, which can be called whenever required.

Creating function.

Python provides the **def** keyword to define the function. The syntax of the define function is given below.



Syntax :

```
def My.Function(Parameters):  
    function-block  
    return Expression.
```

Example :

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```
def sum(): # Defining function  
    a = 10  
    b = 20  
    c = a + b  
    return c  
  
# calling sum function in print  
statement  
print("The sum is : ", sum())
```

Python Arrays

An array is a collection of a similar type of data and stored it into the contiguous memory location. The index of an array is starting with 0. We can access each element via its index.

The Array can be created in python by importing the array module to the python program.

→

```
from array import *  
ArrayName = array(Typecode, [initializers]).
```

Example :

```
import array as arr  
a = arr.array('i', [2, 4, 6, 8])  
print("First element:", a[0])  
print("Second element:", a[1])
```

Output :

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```
First element : 2  
Second element : 4
```

Python String

Python string is the collection of the characters surrounded by single quotes, double quotes or triple quotes.

Syntax :

```
Str = "Hi Vedant"  
String indexing
```



Example:

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`Str = "Hello".`

```
Print(Str[0]) → H
Print(Str[1]) → E
Print(Str[2]) → L
Print(Str[3]) → L
Print(Str[4]) → O
Print(Str[5]) → ✗ Error
```

String Operators

- `+` → Concatenate the two string.
- `[]` → Access the sub-strings of a particular string.
- `%` → It is used to perform string formatting.

Output:

```
enter 0 number = 55
Sum is 10.
```