Python Full Course !!!

Introduction to Python.

Python is a cross-platform programming language, which means that it can run on multiple platforms. like windows, mac OS, Linux, and has even been ported to the java and .NET virtual machines. It is free and open-source.

Your First Python program.

Lets create a very simple program called `Hello World'

Type the following code in editor or an IDE and save it as hello_world.Py

```
Print("Hello, world!")
```

you will get the following output.

```
Hello, World!
```

As you can see, this was a pretty easy task. This is the beauty of the python Programing language.

Python keywords !

Keywords are the reserved words in python.
We cannot use a keyword as a variable name, function name or any other identifiers.
They are used to define Syntax and structure of the python language.

False	await	else	import	Pass
None	break	except	in	raise
True	class	finally	is	return
and	continue	for	lambda	try
as	def	from	nonlocal	while
assert	del	global	not	with
async	elif	if	or	yield

All the keywords except True, False and None are in lowercase and they must be written as they are.

Python Identifiers :

An identifier is a name given to entities like class, functions, variables, etc.,

Key words cannot be used as identifiers

```
global = 1
```

Output

```
File "<interactive input>", line 1
    global =1
           ^
Syntax Error: invalid syntax
```

We cannot use Special Symbols like !, @, #, $, % etc., in our identifier.

```
a@ = 0
```

Output

```
File "<interactive input>", line 1
    a@ = 0
     ^
Syntax Error: invalid syntax
```

An identifier can be of any length.

Python functions:

6 Syntax of function:

```
def function_name(Parameters):
    """docstring"""
    statement(s)
```

Example of a function:

```
def greet(name):
    """
    This function greets to
    the person passed in as
    a parameter
    """
    Print("Hello, "+name+". Good morning!")
```

How to call a function in python?

```
>>> greet('Paul')
Hello, Paul. Good morning!
```

Python Object oriented Programming

→ class:

```
class Parrot :
    Pass
```

→ object:

```
obj = Parrot()
```

→ Methods:

Methods are functions defined inside the body of a class. They are used to define the behaviours of an object.

→ Inheritance:

Inheritance is a way of creating a new class for using details of an existing class without modifying it. The newly formed class is derived class.

→ Encapsulation:

Using Oop in python, we can restrict access to methods and variable. This prevents data from direct modification.

→ Polymorphism:

It is an ability (in OOP) to use a common interface for multiple forms (data types).

Inbuilt Data Structures

- Creating a list:

```
1 my_list = [] #create empty list
2 Print (my_list)
3 my_list = [1,2,3,'example', 3.132] #creating list with data
4 Print (my_list)
```

- Creating a dictionary:

```
1 my_dict = {} # empty dictionary
2 Print (my_dict)
3 my_dict = {1:'Python', 2:'Java'} # dictionary with elements
4 Print (my_dict)
```

- Creating a tuple

```
1 my_tuple = (1,2,3) # create tuple
2 Print (my_tuple)
```

- creating a set

```
1 my_set = {1,2,3,4,5,5,5} #create set
2 Print (my_set)
```