Python

**Python Keywords**

* Reserved Words
* Can’t use for variable, functions and other identifiers
* Case Sensitive and lower case (except True, False and None)

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

**Identifiers:**

* Names given to entities like class, functions, variables etc.
* Identifiers can be a combination of letters in lowercase (a to z) or uppercase (A to Z) or digits (0 to 9) or an underscore (\_). Names like myClass, var\_1 and print\_this\_to\_screen, all are valid example.
* An identifier cannot start with a digit. 1variable is invalid, but variable1 is perfectly fine.
* Keywords cannot be used as identifiers.
* We cannot use special symbols like !, @, #, $, % etc. in our identifier.
* Identifier can be of any length.

## Python Statement

Instructions that a Python interpreter can execute are called statements.

### Multi-line statement

a = 1 + 2 + 3 + \

4 + 5 + 6 + \

7 + 8 + 9

a = (1 + 2 + 3 +

4 + 5 + 6 +

7 + 8 + 9)

colors = ['red',

'blue',

'green']

a = 1; b = 2; c = 3

## Python Indentation

* A code block (body of a [function](https://www.programiz.com/python-programming/function), [loop](https://www.programiz.com/python-programming/for-loop) etc.) starts with indentation and ends with the first unindented line.

for i in range(1,11):

print(i)

if i == 5:

break

if True:

print('Hello')

a = 5

if True: print('Hello'); a = 5

## Python Comments

* In Python, we use the hash (#) symbol to start writing a comment.

#This is a comment

#print out Hello

print('Hello')

### Multi-line comments

#This is a long comment

#and it extends

#to multiple lines

"""This is also a

perfect example of

multi-line comments"""

### Docstring in Python

* Docstring is short for documentation string.
* It is a string that occurs as the first statement in a module, function, class, or method definition. We must write what a function/class does in the docstring.
* Triple quotes are used while writing docstrings. For example:

Refer: IntellPython\src\GettingStarted\FunctionStatements.py

## Data types in Python

* There are various data types in Python. Some of the important types are listed below.
* Datatypes are defined as int, float and complex class in Python.
* type() and the isinstance() function to check if an object belongs to a particular class
* Mutable
* Refer IntellPython\src\GettingStarted\Datatype1.py

### Python List

* Ordered Sequence.
* Mostly used
* All items can be different data type
* >>> a = [1, 2.2, 'python']
* Refer /IntellPython/src/GettingStarted/DatatypeList.py

### Python Tuple

* Ordered Sequence.
* Immutable
* Usually faster than list as it cannot change dynamically.
* All items can be different data type
* Refer /IntellPython/src/GettingStarted/DatatypeTuple.py

### Python Strings

* We can use single quotes or double quotes to represent strings.
* Multi-line strings can be denoted using triple quotes, ''' or """.
* Refer /IntellPython/src/GettingStarted/DatatypeString.py

### Python Set

* UnOrdered Sequence.
* Set is defined by values separated by comma inside braces { }.
* Refer /IntellPython/src/GettingStarted/DatatypeSet.py

### Python Dictionary

* Un Ordered Sequence.
* Kind of key value pair- map
* Fast to retrieve data when we have huge amount of data.
* Refer /IntellPython/src/GettingStarted/DatatypeDict.py
* Also Refer data conversion
* Refer /IntellPython/src/GettingStarted/DatatypeCoversion.py