The print statement:

- The print() function prints the given object to the standard output device (screen) or to the text stream file.
- Remember the time when you wrote your first program? Yes! I am talking about the “Hello World” program, which is probably the first program that anyone learns in their life.

Comments :

Comments in Python are identified with a hash symbol, #, and extend to the end of the line. Hash characters in a string are not considered comments, however. There are three ways to write a comment - as a separate line, beside the corresponding statement of code, or as a multi-line comment block.

There are multiple uses of writing comments in Python. Some significant uses include:

- Increasing readability
- Explaining the code to others
- Understanding the code easily after a long-term
- Including resources
- Re-using the existing code

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Different Types of Comments:

There are three types of comments: single-line, multi-line. The syntax of comments varies depending on the type. This tutorial will explore every kind of comment individually, along with examples.

Single-Line Comments:

Single-line comments begin with the “#” character. Anything that is written in a single line after ‘#’ is considered as a comment. The syntax for writing single-line comments is:

comments here

There are two ways of using single-line comments in Python. You can use it before the code or next to the code. The example depicted below shows the use of comments in both ways.

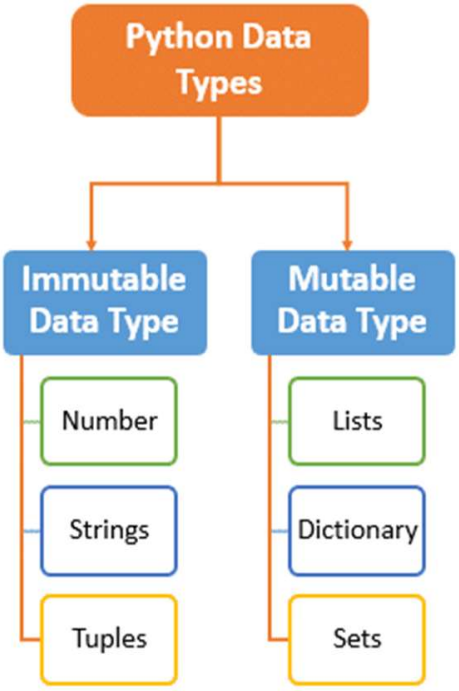
Data Types:

Data types are the classification or categorization of data items. It represents the kind of value that tells what operations can be performed on a particular data. Since everything is an object in Python programming, data types are actually classes and variables are instance (object) of these classes.

Core Data Types in Python :

As the name suggests, a data type is the classification of the type of values that can be assigned to variables. We have already seen that, here in Python, we don't need to declare a variable with explicitly mentioning the data type, but it's still important to understand the different types of values that can be assigned to variables in Python. After all the data type of a variable is decided based on the value assigned.

in python:



Let's discuss the above-mentioned core data types in Python.

Numbers: The number data type in Python is used to store numerical values. It is used to carry out normal mathematical operations.

Strings: Strings in Python are used to store textual information. They are used to carry out operations that perform positional ordering among items.

Lists: The list data type is the most generic Python data type. Lists can consist of a collection of mixed data types, stored by relative positions.

Tuples: Python Tuples are one among the immutable Python data types that can store values of mixed data types. They are basically a list that cannot be changed.
Sets: Sets in Python are a data type that can be considered as an unordered collection of data without any duplicate items.

Dictionaries: Dictionaries in Python can store multiple objects, but unlike lists, in dictionaries, the objects are stored by keys and not by positions.

Python Keywords :

Python keywords are reserved words. They are used by python interpreters to understand the program. Keywords define the structure of programs. We can't use keywords to name program entities such as variables, classes, and functions.

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

Identifier :

- Identifier is a name used to identify a variable, function, class, module, etc. The identifier is a combination of character digits and underscore.
- The identifier should start with a character or Underscore then use a digit.
- The characters are A-Z or a-z, an Underscore (_) , and digit (0-9).
- We should not use special characters (#, @, $, %, !) in identifiers.

Examples for valid identifiers:

- *var1*
- *_var1*
- *_1_var*
- *var_1*

Examples for invalid identifiers:

- *!var1*
- *1var*
- *1_var*
- *var#1*

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Variable:

- Python Variable is containers which store values.
- Python is not “statically typed”.
- We do not need to declare variables before using them or declare their type.
- A variable is created the moment we first assign a value to it.
- A Python variable is a name given to a memory location.
- It is the basic unit of storage in a program.

Rules for creating variables in Python:

- A variable name must start with a letter or the underscore character.
- A variable name cannot start with a number.
- A variable name can only contain alpha-numeric characters and underscores (A-z, 0-9, and _).
- Variable names are case-sensitive (name, Name and NAME are three different variables).
- The reserved words(keywords) cannot be used naming the variable.

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Variable Cases:

There are 3 types of variable cases in python:

1.Camel Case

2.Snake Case

3.Pascal Case

Camel Case:

- Suppose we have a list of words, we have to concatenate them in camel case format.
- So, if the input is like ["Hello", "World", "Python", "Programming"], then the output will be "helloWorldPythonProgramming“.

  ex: *someVar*, *someClass*, *somePackage.xyz*.

Snake Case:

Snake case (stylized as snake_case) refers to the style of writing in which each space is replaced by an underscore (_) character, and the first letter of each word is written in lowercase.

It is a commonly used naming convention in computing, for example for variable and subroutine names, and for filenames.

One study has found that readers can recognize snake case values more quickly than camel case.

ex: *some_var*, *some_class*, *some_package.xyz*.

Pascal Case:

Pascal case follows the same camel case naming convention rules — all but one: we capitalize the first letter.

In object-oriented languages like Java and TypeScript, we use pascal case to denote classes, namespaces, and abstractions like interfaces.

In scripting languages like Python, you'll rarely find camel or pascal case code except when defining a class's name.

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ex: *SomeVar*, *SomeClass*, *SomePackage.xyz*

Data conversion functions – int(), float(), complex(), str()

int() -

- This function is used to convert any data type into an integer data type.
- The syntax of int() is int(variable, base), the function takes 2 parameters.
- where “variable” is a string and ‘base’ specifies the base in which string is if the data type is a string.

float() –

- This function is used to convert any data type into a float type.
- The syntax of float() is float(parameter), where parameter is optional.
- The use of float without parameters is only to declare an empty float data type variable.

complex()-

- The complex() function is used to create a complex number or convert a string or number to a complex number.
- The complex type is described in Numeric Types — int, float, complex.

str() –

- Used to convert an integer into a string.
- This function is mostly used when we need to combine different data type values with string data type values.
- Syntax of str() function is str(parameter).

Input():

- In Python, we use input() function to take input from the user.
- Whatever you enter as input, the input function converts it into a string.
- If you enter an integer value still input() function convert it into a string.

Syntax:

input(prompt)

Parameter:

Prompt: *(optional) The string that is written to standard output (usually screen) without newline.*

Return:

String object

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