IntelliPaat

Python

Programming Basics

Agenda

01 Introduction to Python

02 Installation

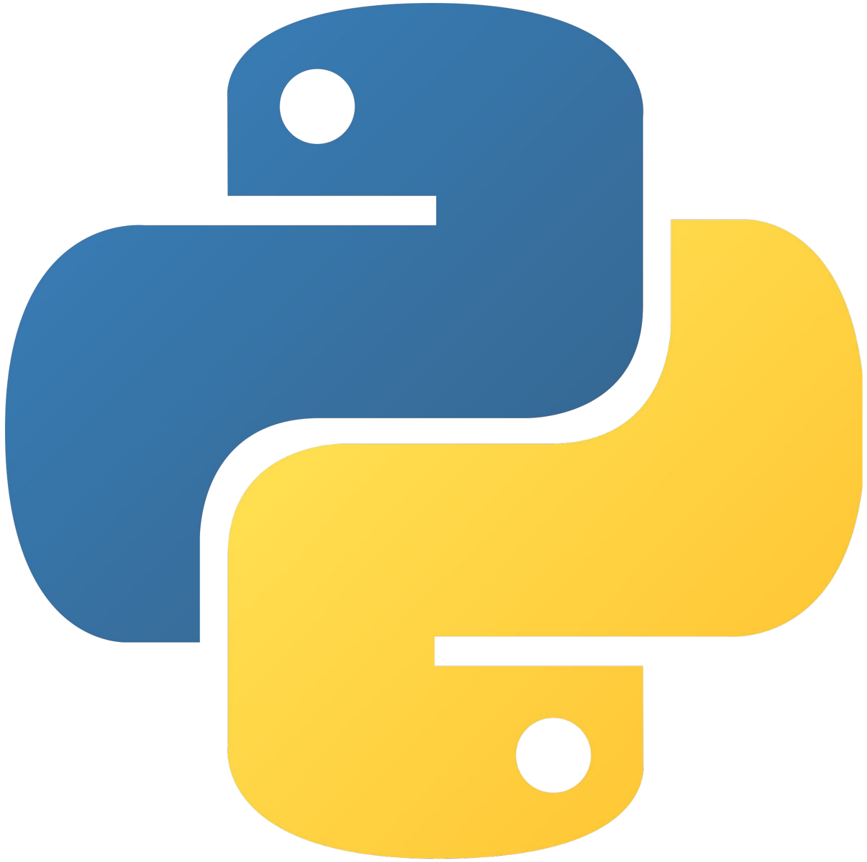
03 Variables in Python

04 Python Operators

Introduction to Python

Introduction to Python

Python programming language is both procedural and object oriented programming language that has become quite popular among the data science community for its ease of use and readability.



Python Installation

Python Installation

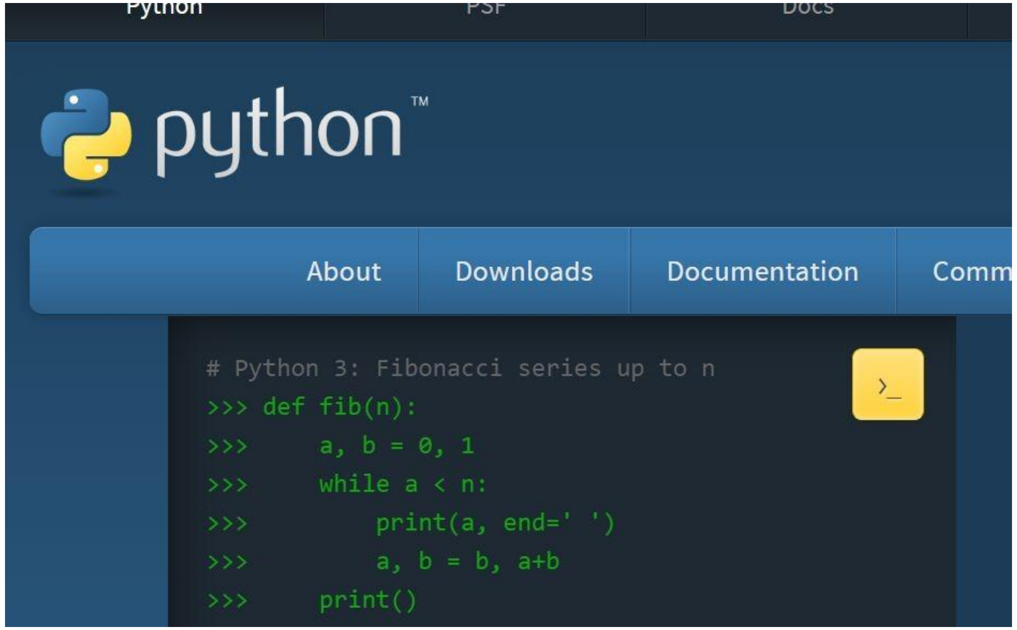
You can install python on your local machines by following these steps:

Step 1: Go to Python.org.

Step 2: Download the version that best suits your local machine.

Step 3: Start the installation setup.

Step 4: Set python path in the installation or manually.



```
# Python 3: Fibonacci series up to n
>>> def fib(n):
>>>     a, b = 0, 1
>>>     while a < n:
>>>         print(a, end=' ')
>>>         a, b = b, a+b
>>>     print()
```

Jupyter Notebook

Follow the steps below to install Anaconda on your local machines.

Step 1: Go to anaconda.com
Step 2: Download the anaconda

installer Step 3: finish the installation

setup.

Step 4: Add to Path, and launch jupyter notebook to start working.

Google Colab

Follow the steps below to use Google Colab on your local machines.

Step 1: Go to gmail.com

Step 2: Open Google Apps

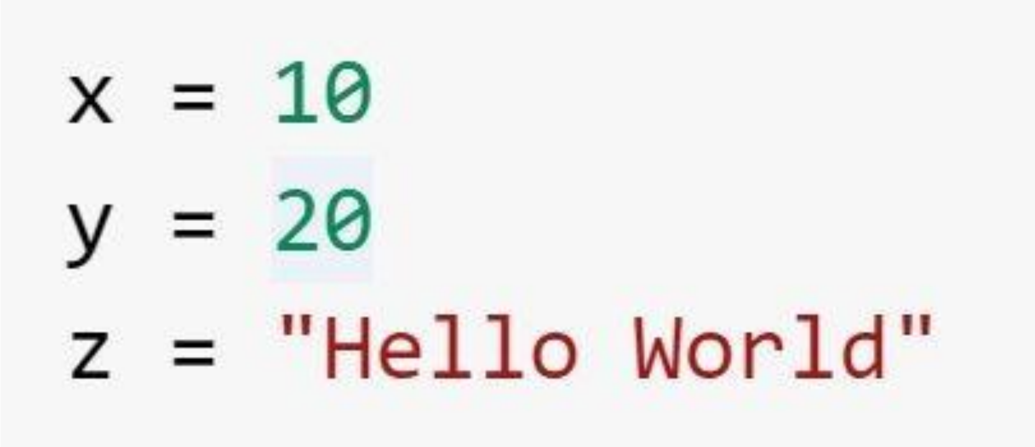
Step 3: Navigate to Google Colab

Step 4: Start working on the Google Colab Notebooks.

Variables in Python

Variables in Python

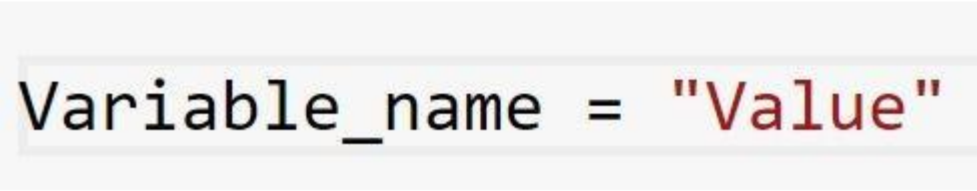
A variable in python or any other programming language can be termed as a temporary storage location that will store a particular value for that particular variable.



```
x = 10
y = 20
z = "Hello World"
```

How to declare a variable in Python?

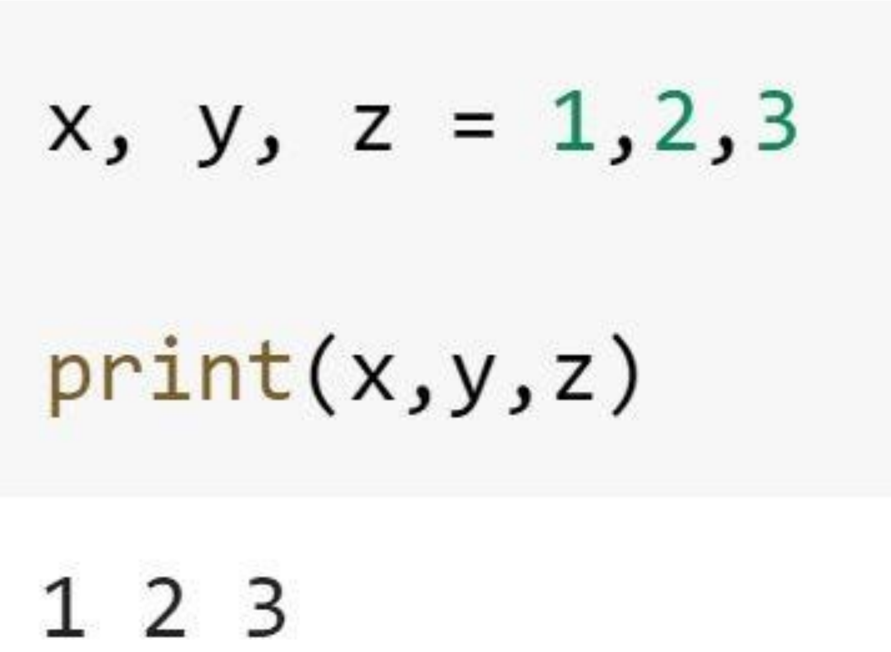
Declaring a variable in python is as easy as writing code in simple english language. You can use an assignment operator to directly assign a value to any variable, although there are certain rules that must be followed in order to declare variables in Python.



```
Variable_name = "Value"
```

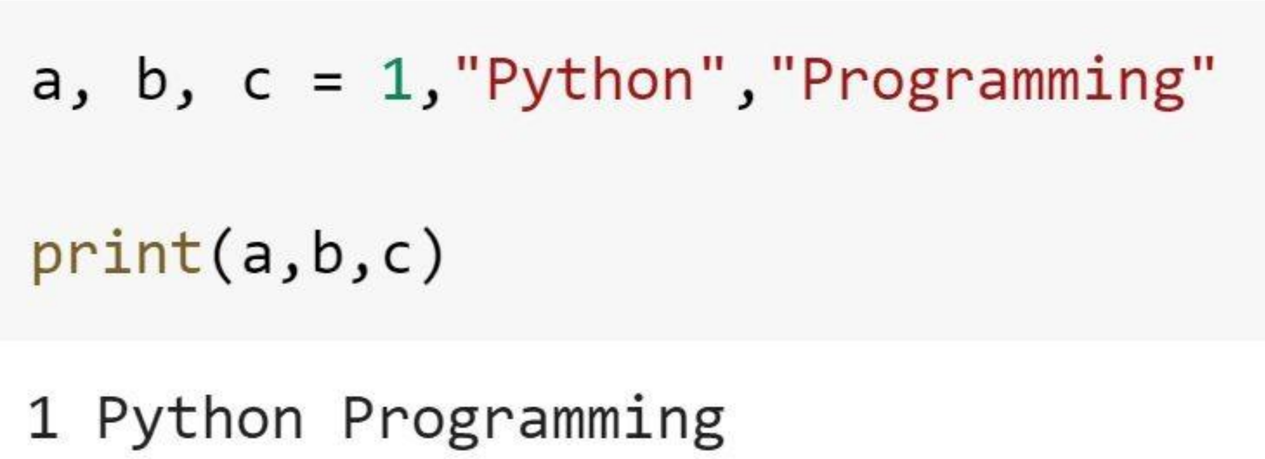
Multiple Variable Assignment in Python

We can declare multiple variables in a single line of code in python as well.



```python
x, y, z = 1,2,3

print(x,y,z)
```

```
1 2 3
```



```python
a, b, c = 1,"Python","Programming"

print(a,b,c)
```

```
1 Python Programming
```

Naming Conventions in Python

Variables in Python are case sensitive

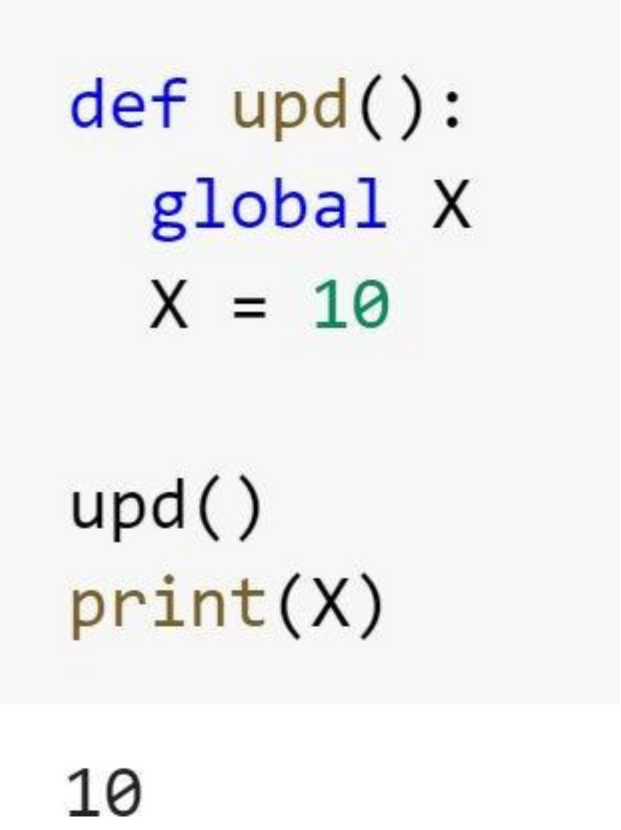
A variable name cannot start with a number

A variable name can consist of alphanumeric characters

A variable name can start with a character or an underscore

Global Variables in Python

Global variables are those that can be used outside the scope of a class, function, etc. To create a global variable inside a function, you can use the **global** keyword as well.



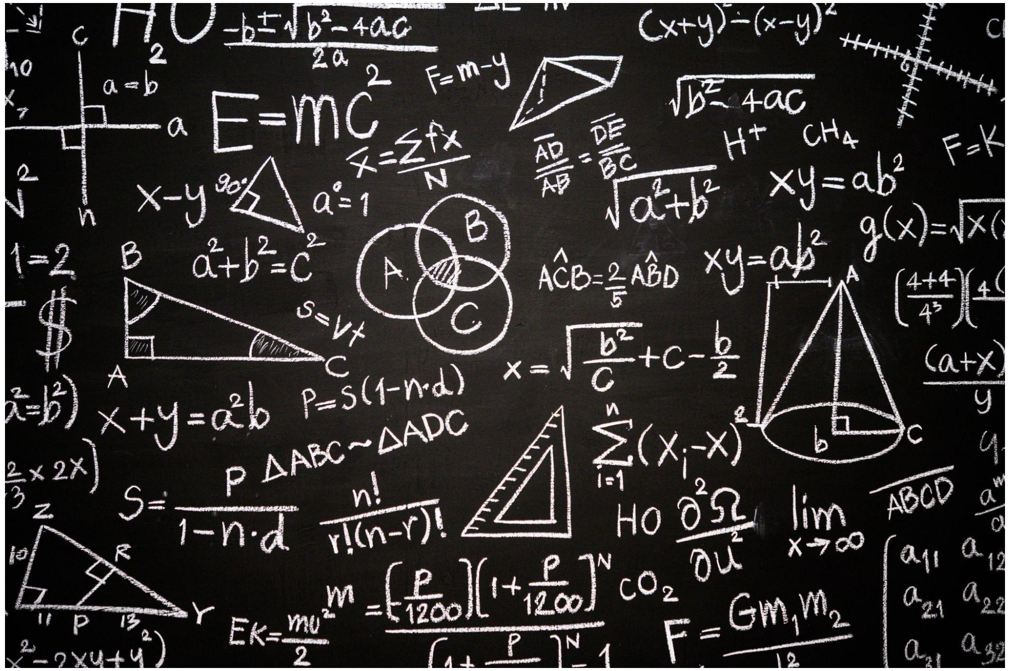
```
def upd():
   global X
   X = 10

upd()
print(X)
```

```
10
```

Python Operators

Python Operators

An operator serves as the keywords/symbols that are used to perform any operation on one or more variables/values, etc.



Types of Operators in Python

Assignment Operators

Comparison Operators

Identity Operators

Bitwise Operators

Arithmetic Operators

Logical Operators

Membership Operators

Assignment Operators

Assignment operators are those operators that will help in executing the assignment of some value to the operands.

Assignment Operators

Assignment Operator	Description
=	equals
+=	x += 5 is same as x = x + 5
-=	x -= 5 is same as x = x - 5
*=	x *= 5 is same as x = x * 5
/=	x /= 5 is same as x = x / 5
%=	x %= 5 is same as x = x % 5
//=	x //= 5 is same as x = x // 5

Assignment Operators

Assignment Operator	Description
&=	x &= 5 is same as x = x & 5
|=	x |= 5 is same as x = x | 5
^=	x ^= 5 is same as x = x ^ 5
**=	x **= 5 is same as x = x ** 5
<<=	x <<= 5 is same as x = x << 5
>>=	x >>= 5 is same as x = x >> 5

Arithmetic Operators

Arithmetic operators are those operators that will help in performing an arithmetic operation between the operands.

Arithmetic Operators

Arithmetic Operator	Description
+	Add
-	Subtract
*	Multiply
/	divide
**	Exponent
//	Floor Division
%	Modulus

Comparison Operators

Comparison operators are used to compare two or more values.

Comparison Operators

Comparison Operator	Description
<	Smaller
>	Greater
<=	Less than equal to
>=	Greater than equal to
==	Equals
!=	Not Equals

Logical Operators

Combining multiple statements through a logic is where the logical operators are used in programming languages, especially while comparing or in
if-else(conditional) statements.

Logical Operator	Description
AND	Returns true if both the statements are true
OR	Returns true if one of the statements is true
NOT	Returns False, if the statement is True, and vis-a-vis

Identity Operators

Identity operators in python are used to compare if the objects are in fact the same object or not.

Identity Operator	Description
is	Returns true if same object.
is not	Returns true if not the same object.

Membership Operators

Membership operators in python will check if the sequence is present in the object or not.

Membership Operator	Description
in	Returns true if the sequence is present
not in	Returns true if the sequence is not present

Bitwise Operators

Bitwise operators are used to compare binary values.

Bitwise Operators

Bitwise Operator	Description
&	Sets both bits to 1 if both of them are 1.
|	Sets both bits to 1 if one of them are 1.
^	Sets both bits to 1 if only one of them is 1.
~	sets the bits to inverse of each of them
<<	Zero fill left shift
>>	Zero fill right shift

Thank You

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