

DE-27/Mar/2020 PYTHON

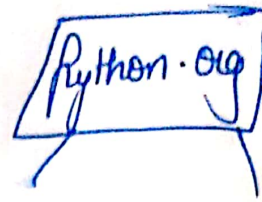
Friday

GURU

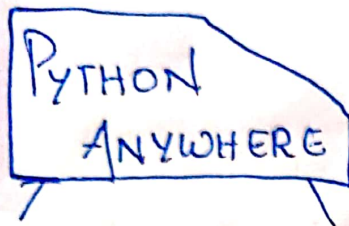
Programming language

Interpreter

How to run the code



Kaggle



Online

Git Hub

glot.io

Repl.it

Python 2,

2 vs 3

Lexical program

Currently running 3.8.xx

Machine Independent

List of Languages

How does python work

Completely transforming the .py files into
binary file via a mediator called INTERPRETOR

Interpreter & Compiler

programming.io
buddy.

discord.

ZTM Community

Open source,

Python anywhere.

Module programming

Web scrapping

Python packages

Cheat sheet

Python Types

Python Basics

Functions

Advance Python

} Again Sub Categorized.

① Python Types

→ Numbers, strings, Boolean, Lists, Dictionaries
Tuples, Sets, None

② Python Basics

→ Comparison Operator, Logical Operators, Loops
Range, Enumerate, Counter, Named Tuple,
Ordered Dict

Functions:

Functions, Lambda, Comprehensions, Map, Filter, Reduce, Ternary, Any, All, Closures, Scope

Advanced Python:

Modules, Iterators, Generators, Decorators, Class, Exceptions, Commandline arguments, File IO, Useful Libraries.

NUMBERS

// There are 2 types of Numbers in Python

① integer

② float

These fall under the int & float category of data type.

Eg: int 2

→ 2 is of type int

type(2) → int

type(-10) - int

type(-9) - int

type(3) - int

Eg: print(type(2))

→ O/P <class 'int'>

↳ integer has only real numbers, starting from -∞ to ∞ without decimal numbers

float

All the decimal numbers fall into float category

Eg: $\text{type}(3.5) \rightarrow \text{'class float'}$
 ↓
 float type

float 3.5

$\text{type}(2.2)$ # float

$\text{type}(4e2)$ # float $\rightarrow 4 \times 10$ to power of 2

ARITHMETIC

$10 + 3 \rightarrow 13$

// So, python provides arithmetic operators.

$+$ \rightarrow Addition $\rightarrow 10 + 20 \rightarrow 30$

$-$ \rightarrow Subtraction $\rightarrow 20 - 5 \rightarrow 15$

$*$ \rightarrow Multiplication $\rightarrow 3 * 5 = 15$

$**$ \rightarrow Cubical $\rightarrow 2 ** 3 \Rightarrow 2^3 = 8$

$//$ \rightarrow floor division \rightarrow return an int value

$/$ \rightarrow division $\rightarrow 10 / 3 \Rightarrow 3.33$

$\%$ \rightarrow Modulus $\rightarrow 10 \% 3 \Rightarrow 1$

$$\begin{array}{r} 3 \overline{) 10} \\ \underline{9} \\ 1 \end{array}$$

 $\xrightarrow{\text{division}}$
 $\xrightarrow{\% \text{ (Modulo)}}$

MATH FUNCTIONS

↳ Python supports basic & advanced trigonometric functions like

$\text{pow}(5, 2) \rightarrow 5^2 \rightarrow 25$

$\text{abs}(-20) \rightarrow 20$ removes negative values

$\text{round}(4.23) \rightarrow 4$ rounds decimals (rounds)

$\text{round}(5.468, 2) \rightarrow 5.47$ rounds to two places

$\text{bin}(512) \rightarrow$ converts to binary $\rightarrow 0b1000000$

$\text{hex}(512) \rightarrow$ converts to hexadecimal format
 $\rightarrow 0x200$

USER INPUT

input \rightarrow keyword is used

$\text{age} = \text{input}(\text{"How old are you"})$

$\text{age} = 25$ \rightarrow int

$\text{name} = \text{input}(\text{"What's your name"})$

$\text{name} = \text{jessy}$

\rightarrow string

$\text{pi} = \text{input}(\text{"What is value of pi"})$

$\text{pi} = 3.14$

\rightarrow float.

So, in order to tell the particular input is of respective type. we need to type cast

So, $age = \text{int}(age)$

$fi = \text{input}(______)$

$fi = \text{float}(fi)$

↳ Converting the value to float.

// By default the input used by python is string type.

TYPE CONVERSION IN PYTHON

int to float $\Rightarrow 2 \rightarrow 2.0, 2.5, \text{etc}$

float to int $\Rightarrow 5.6 \rightarrow 5 \text{ or } 6$ (depending on Decimal)

// In python there are only 2 types for number,

i.e, long, short can be replaced or

used directly with just mentioning the type keywords

int or float $5 * 7.5 \Rightarrow \text{float}$ O/P

$\text{int} + \text{int} = \text{int}$ 37.5

$\text{int} + \text{float} = \text{float}$

$\text{int (Arithmetic ops) float} = \text{float}$