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Phython Basics:

* Variables: In phython or in any programming language we store data in form of variables.

eg: a = 10 ← input (a is veriable)
a ← calling a press shift+enter or run button
10 ← o/p

* short-cut to run code in jupeternote book use (shift+enter) or run button.

* Phython is a programming language that supports scripting (scripting is a code written by without following any oop concept)

* Python is self-typed language that means python system automatically get to know the datatype of veriable decleared.

eg: a = 10
here datatype of a is int.

* To check type of data veriable:

eg: ① a = 10
type(a) ← inbuilt fun to check type of veriable.
↳ int

② sudh = "sanjana"
type(sudh)
↳ (string) 'str

③ a = [1, 2, 3, 4]
type(a)
↳ list

④ a = 1.23
type(a)
↳ Float

⑤ n = True (it should be capital)
type(n)
↳ bool (boolean)

⑥ m = False
type(m)
↳ bool

⑦ n+m
↳ 1 (internaly True is 1 & False is 0) so 1+0 is 1 ie. (n+m) = 1.

Note: ① If we divide any no. by zero (0) or we [illegible] True/False in python it will give us (division by zero) error.
② In numpy module in python it will give infinity(∞)

Operators:

① Arithmetic Operators:

① Addition (+)

(i) a=10, b=11

a+b

↳ 21

(ii) True + False (True always stores 1 & false=0)

↳ 1

(iii) True + True (1+1) = 2

↳ 2

② Substraction: (-)

a=10, b=10

a-b

↳ 0

③ Multiplication: (*)

a=10, b=10

a*b

↳ 100

④ Division (/):

a=10 b=2

a/2

↳ 5

⑤ Modulus (%):

a=10 b=3

a%b

↳ 1 (remainder)

② Comparison Operators:

① > (greater than)

a=10, b=2

a>b

↳ True

② < (less than)

a=2 b=10

a<b

↳ True

a=10 b=2

a>b

↳ false

③ >= (Greater than equal to)

a=10 b=10

a>=b

↳ true

④ <= (Less than equal to)

a=10 b=12

a<=b

↳ true

⑤ == (equal to)

a=10, b=11

a==b

↳ false.

Note: While defining complex no. always we (j or J) instead of i.

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③ Assignment Operator: (=)

a = 10 , b = 11

a = b (here we have assigned value of b to a).

↳ a

↳ 11

* defining complex no. in python:

v = 5 + 4j

type(v)

↳ complex.

h)