Primitive Data types

Lec 11

- It tells type of value/data.
- Data types are actually classes in python and variables are objects (instance) of these classes.

  eg. int is a class, var = 4 [Here var is an object/instance of int class type]
  float is a class

- Python has multiple different data types.

NOTE:- In Python user does not need to specify the type of variable while creating it because python will figure this out itself.

e.g:-
```
var1 = 10
var_2 = 9.4
var_3 = "Jenny"
```
⇒ we haven't specified any data type. Python itself will figure that var1 is of type int, var_2 is float & var_3 is string.

Data types are:-
- int, float, complex] ⇒ Numeric type
- String
- list, tuple, range] ⇒ Sequence type
- dictionary
- Boolean
- Set

int:- Contains whole numbers (+ve or -ve)
there is no limit to how long an integer value can be (only constrained by the memory of your system)

e.g:- a = 123

print(a) ⇒ will print 123

a = 90123456789012345678 9

print(a) ⇒ will print 90123456789012345678 9

NOTE:- with any prefix the given number would be considered as decimal number

TMP

but with prefix

e.g:- 0b or 0B [zero + b, zero + B] ⇒ Binary

0o or 0O [zero + lowercase letter 'o', zero + uppercase letter 'O'] ⇒ octal

0x or 0X [zero + x, zero + X] ⇒ hexadecimal

eg:- print(0b11) ⇒ will print 3
print(0o11) ⇒ will print 9
print(0x11) ⇒ will print 17

print(0o123) ?
print(0x123) ?

- If you wanna check the type then use type() function

e.g:- var = 4

print(type(var)) ⇒ will print <class, 'int'>

Float:- decimal numbers

eg:- 4.2, 4.0, .2

~~Ex~~

Strings:- sequence of characters

"Jenny" or 'Jenny'

print("Jenny"[0]) ⇒ will print J

print("Jenny"[3]) ⇒ will print n

So we can fetch a specific character from the string using subscript method.

exercise 1
```
name = "Jenny 'khatri"
print(name[5])
print(len(name))
```
output ?

exercise 2:-
```
name = " Jenny's lectures "CS/IT" "
print(name)
```

Sol:-
```
name = "Jenny\'s lectures \"CS/IT\" "
print(name)
```

[just use backslash (\) to skip the special meaning of single quote & double quote]

exercise:- print(5 * "Jenny")

exercise:- print("100" + "100") — will print 100100

exercise:- print(100 + 100) → will print 200

Boolean :- 2 possible values

- True
- False

[Make Sure T & F are capital while using True & False otherwise you will get error]

eg: 1 :- var = True

print (var) ⇒ will print True

print (type(var)) ⇒ will print <class, 'bool'>

eg: 2 :- a = 1

b = 2

var = a<b

print(var) → will print True

print(type(var)) → will print <class, 'bool'>