Lec #3

Rising Coders Era

→ Data types in Python ?

→ type Keyword ?

type Keyword ?
used to Know the datatype ~~of the~~ stored in variable.

① What is datatype →

" Type of data present inside a variable "

```
a = 200
print(type(a))
```

o/p → integer.

```
b = 3.14
print(type(b))
```

o/p → Float

Python inbuilt data types

1) int
2) Float
3) complex
4) bool
5) str
6) bytes
7) bytearray
8) range
9) list
10) tuple
11) set
12) frozenset
13) dict
14) None.

1) int datatype

" 'int' datatype is used to represent integers, which are whole numbers without any decimal points.

Code

```
x = 5
y = -10
z = 0
```

} x, y, z all are integers

```
print("datatype of x is: ", type(x))
print("datatype of y is: ", type(y))
print("datatype of z is: ", type(z))
```

o/p

```
datatype of x is: <class 'int'>
datatype of y is: <class 'int'>
datatype of z is: <class 'int'>
```

2) Float datatype

" 'float' datatype is used to represent floating-point numbers, which include numbers with decimal points. "

```
a = 3.14
b = -0.5
c = 2.0
```

} a, b, c are all variables of type float. Storing floating-point values.

Code

```
print("datatype of a is: ", type(a))
print("datatype of b is: ", type(b))
print("datatype of c is: ", type(c))
```

o/p

```
datatype of a is: <class 'float'>
datatype of b is: <class 'float'>
datatype of c is: <class 'float'>
```

3) complex datatype

$z = a + bi$

where,

z = complex number.

a = real part of complex number.

b = imaginary part of the complex number.

"'complex' datatype is used to represent complex numbers, which have both real part & an imaginary part."

Code

```
p = 2 + 3j
q = -1.5 + 0.5j
r = 0 - 2j
```

} Here, 'p', 'q', 'r' are variables of type 'complex', storing complex no's with different real & imaginary part.

```
print("datatype of p is: ", type(p))
print("datatype of q is: ", type(q))
print("datatype of r is: ", type(r))
```

O/P

```
datatype of p is: <class 'complex'>
datatype of q is: <class 'complex'>
datatype of r is: <class 'complex'>
```

5)

4) **bool datatype**

"'bool' datatype is used to represent Boolean values, which are either 'True' or 'False'."

- used for making decisions.

capital T, F

- 'True' ⇒ Represents a true or +ve condition
- 'False' ⇒ Represents a False or -ve condition.

code

```
is_sunny = True
is_raining = False

if is_sunny:
    print("It's a sunny day!")

else:
    print("It's not sunny today.")

print("datatype of is_sunny: ", type(is_sunny))
print("datatype of is_raining: ", type(is_raining))
```

output

```
It's a sunny day!
datatype of is_sunny: <class 'bool'>
datatype of is_raining: <class 'bool'>
```

5) **Str datatype**

'str' datatype is used to represent strings, which are sequence of characters. Strings are used to work with textual data.

- '' → can use single quotes.
- " " → can use double quotes.
- String can be → letters, numbers, symbols & spaces.

```
codes   = " Rising codes Era "
message = ' Like, Share, Subscribe '
```

↑ 'codes' & 'message' variables are of type 'Str', storing text data.

↳ operations can be performed on String

1) concatenation → adding more strings.
2) Slicing.

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6) bytes datatype