

Class 5 \Rightarrow class 4 for pytho

Agenda

- \rightarrow Be on time ~ 5 min + 5 min revision
- \rightarrow Continuing on Data types + Practical
- \rightarrow Creating a telegram group on mayank
- \rightarrow Emails \Rightarrow on mayank

14 data types

↔ 6 categories

<u>Numeric</u>	<u>Boolean</u>	<u>Sequence</u>	<u>Set</u>	<u>Mapping</u>	<u>None</u>
int ✓	<u>bool</u> ✓	str	set	dict	None Type
float ✓		list	frozen set		
Complex ✓		bytes			
		bytearray			
		tuple			
		range			

Boolean or bool datatype

True or False

⇒ It is case sensitive

⇒ Booleans in programming are used to make comparisons and control the flow of our program

If (we are hungry) ⇒ eat

If (tired) ⇒ sleep

Internally python stores True as 1
& false as 0.

Conditional Statements ~~***~~ ⇒ If

Strings

```
str1 = "mayank"
```

We don't have char data type in python.

String is a collection of characters

''' → string

abc ⇒ string

How to define a string?

Single Quotes

to define your string

double quotes

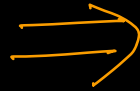
python prefers "single quotes"

How string is stored internally?

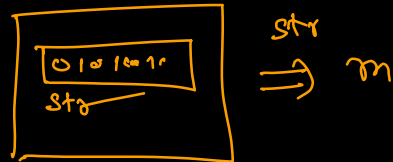
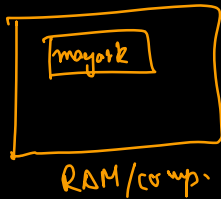
Computer understand binary

'mayank'

'm'
'a'



internally converted
into encoding.



ASCII / Unicode

A-Z = 65 - 90

0-9 = 48 - 57

str[0] = '0'

→
encoding

'0' ↗

↓ 48 is ascii

01010011 ← sto

'0'

← decoding
01010011
↓
'0'

for int \Rightarrow we can store directly after binary conversion

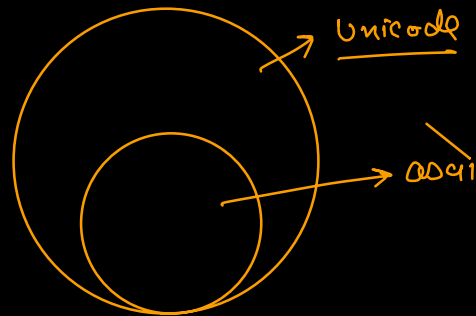


but

for strings = we first convert to ascii
& then store its binary
conversion

ascii \Rightarrow '0'
48

0 \Leftarrow no need for ascii
value



Ord() \Rightarrow takes a char [1 length string]
& gives us a ~~UNICODE~~
VALUE

Ino

Industry use cases

MNo. \Rightarrow abc

review 'hindi only' To1(Hindi)
 \Downarrow
str \Rightarrow Compare each char.
unicode value.

A-Z 65-90 } \Rightarrow out of range
a-z 97-122 }
 \Downarrow
error

+91

'+' allowing this

but not

'*' , '-' , '\'

Multi Line Strings

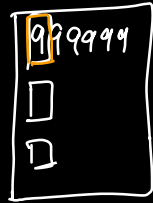
We use triple single Quote ('''')
for storing multi line string.

It can also take single ~~to~~ Line Input

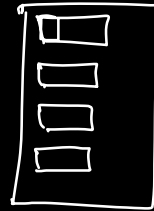
Indexing

str = 'PYTHON'

Can / How we access single char from our string?



mobile numbers



20 marks / sw

C 1 2 3
R 1 2 3
E 1 2 3

str1 = "PYTHON"
0 1 2 3 4 5

str1[0] = P

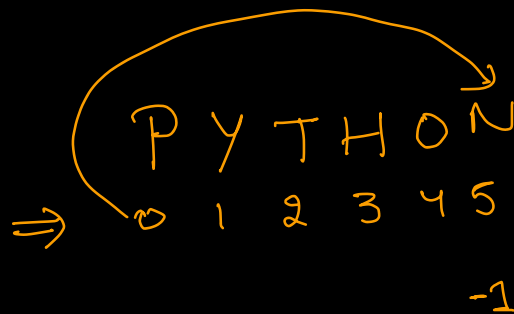
str1[5] = N

str1[1] = Y

str1[6 - 0] = error

str index out of range

Negative Indexing



+ve indexing



P Y T H O N
-6 -5 -4 -3 -2 -1

Why this -ve indexing?

⇒ Say we have a very long string or
in string our area of interest
is last character.

P Y T H O (N)
0 1 2 3 4 5
-1

A
B

10000

Range of Index

for positive indexing $0 < \dots < \text{len}-1$

for negative indexing $-\text{len} < \dots < -1$

eg. PYTHON len = 6
0 1 2 3 4 5
~~-6~~ -5 -4 -3 -2 -1

any no. which is greater than
(len-1) or smaller than
(-len) will give out of index
error.

To change your -ve index
to +ve index, add length.

-1 $\rightarrow (1 + \text{len})$

P Y T H O N
-6 -5 -4 -3 -2 -1
0 1 2 3 4 5 + len (6)

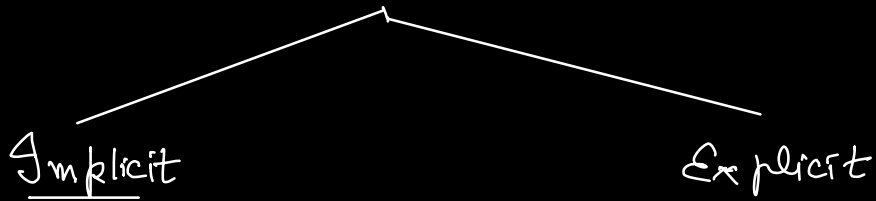
2 request

1. Be on time

2. See atleast last 3 recording.

Type Conversion

process of converting one type of data to another type, is called type conversion.



+91 99999
↓
⇒ "

'5' + '5' = 55

' ⇒ int

mob[0] = 1

9.8 ⇒ 9

⇒ '9.8'

99 999.0 ⇒ 99999[×]
float int

Implicit Type casting