

# String

Strings are sequence of Characters

In Python specifically, strings are a sequence of Unicode Characters

- .Creating Strings
- .Accessing Strings
- .Adding Chars to Strings
- .Editing Strings
- .Deleting Strings
- .Operations on Strings
- .String Functions

```
In [2]: #Creating String
a = 'hello'
a

Out[2]: 'hello'

In [4]: b = "hello"
b

Out[4]: 'hello'

In [5]: #triple invetred comma also use while multi line strings
d = '''Hello'''

In [6]: d

Out[6]: 'Hello'
```

## Accessing Substrings from a String

```
In [7]: # Concept of Indexing
c = "hello"
print(c)

hello

In [8]: print(c[0])

h

In [9]: print(c[4])

o

In [12]: # Types of Indexing
# Postive Indexing
# Negative Indexing

print(c[-3])

l

In [13]: print(c[-2])

l

In [14]: print(c[-2])

l
```

in indexing we are able to get single character but using slicing we can access multiple string

```
In [15]: #Slicicng
c= "hello world"
print(c[0:4])# starting+:+ stop+1 to get complete sub string

hell

In [16]: c= "hello world"
print(c[0:5])

hello

In [17]: print(c[2:]) # this will print from 2 to till last

llo world

In [18]: print(c[:6]) ##this will print from starting to 6

hello

In [20]: print(c[:]) # not specifying starting postion not ending then we will get complete string

hello world

In [21]: print(c[0:8:3])

hlw

In [23]: print(c[0:6:-1]) # with postive slicing steps we can only take postive if we give negative output will be nothi

In [24]: print(c[-5:-1:2])

wr

In [25]: print(c[::-1]) #this will reverse the srting (important)

dlrow olleh

In [27]: print(c[-1::])

d
```

## Editing and Deleting in Strings

```
In [28]: c = "Hello"
print(c)

Hello

In [29]: c[0] = 'X'

-----
TypeError                                 Traceback (most recent call last)
<ipython-input-29-907c01db80c3> in <module>
----> 1 c[0] = 'X'

TypeError: 'str' object does not support item assignment
```

Strings are a Immutable Data Type we can not edit the string we can assign but we can not edit srting we can not add character in srting

```
In [31]: c = "world"
print(c)

world

In [32]: c[5] = "X"

-----
TypeError                                 Traceback (most recent call last)
<ipython-input-32-a04cbff15ae7> in <module>
----> 1 c[5] = "X"

TypeError: 'str' object does not support item assignment

In [33]: # Deletion
c

Out[33]: 'world'

del c

In [36]: print(c)

-----
NameError                                 Traceback (most recent call last)
<ipython-input-36-1dd5973cae19> in <module>
----> 1 print(c)

NameError: name 'c' is not defined

In [37]: c = "hello"

In [40]: del c[0]## we can delet single item from string becuse it will edit and edit not happen in string becuse string

-----
TypeError                                 Traceback (most recent call last)
<ipython-input-40-460b9c1167b2> in <module>
----> 1 del c[0]## we can delet single item from string becuse it will edit and edit not happen in string becus
e string is immutale

TypeError: 'str' object doesn't support item deletion
```

Operations on Strings Arithmetic Operations Relational Operations Logical Operations Loops on Strings Membership Operations

```
In [20]: "Hello" + "-" + "world"## Only String + And * works on Stiring

Out[20]: 'Hello-world'

In [2]: print(""*50)

*****

In [3]: print("Hello"*4)

HelloHelloHelloHello

In [25]: "Hello" == "World"

#Note:"" -> empty srting python gives FALS in logical opeation
###"daasffsd"-> not empty srting python gives TRUE in logical opeation

Out[25]: False

In [5]: "Hello" != "WOrld"

Out[5]: True

In [24]: "Mumbai" > "Pune"
# Lexiographically comparison is happeing its means which in Alphabet which letter will come
#first according to that it will take the word which comes here first is smaller later comes it is larger

Out[24]: False

In [7]: "Goa" < "Kolkata"

Out[7]: True

In [8]: "kol" < "Kol"

Out[8]: False

In [9]: "hello" and "world"

Out[9]: 'world'

In [10]: "" and "Hello"

Out[10]: ''

In [11]: "" or "world"

Out[11]: 'world'

In [12]: "hello" or "world"

Out[12]: 'hello'

In [13]: "hello" and "world"

Out[13]: 'world'

In [15]: print(not "hello")

False

In [16]: c = "hello world"
for i in c[::-1]:
    print(i)

d
l
r
o
w

o
l
l
e
h

In [17]: 'h' in c

Out[17]: True

In [27]: 'H' in c# Membership Operator in or not in

Out[27]: False

In [19]: 'world' not in c

Out[19]: False

In [26]: c = "hello world"
for i in c:
    print(i)

h
e
l
l
o

w
o
r
l
d

In [ ]:
```