python ⟶ p h t

Indexing

s123 f1 ⇒ ␣

Accessing Individual Characters In String

In **Python**, Strings are stored as individual characters in a contiguous memory location.

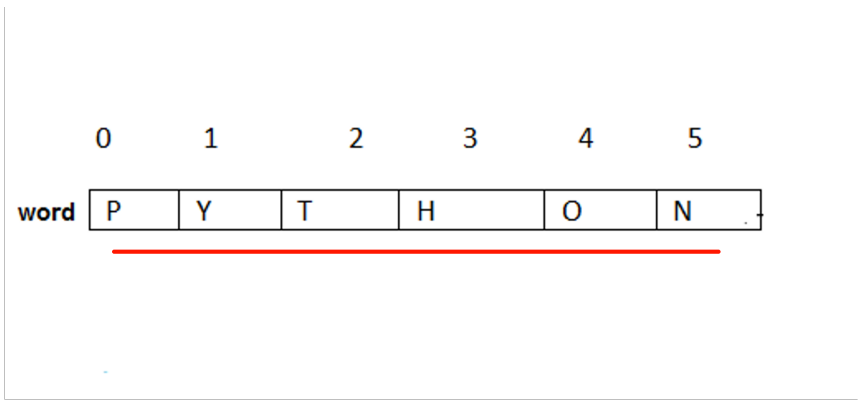
Each character in this memory location is assigned an index which begins from **0** and goes up to **length -1**

Accessing Individual Characters In String

For example, suppose we write

word="Python"

Then the internal representation of this will be



Accessing Individual Characters In String

Now to access individual character we can provide this **index number** to the **subscript operator [ ]**.

```
>>> word="Python"
>>> print(word[0])
P
>>> print(word[1])
y
>>> print(word[2])
t
```

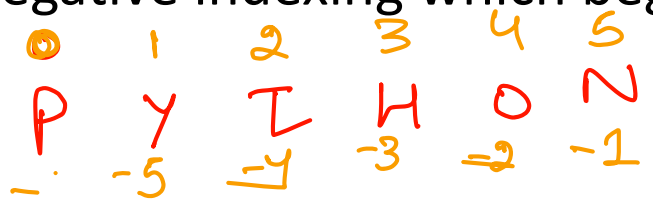
Accessing Individual Characters In String

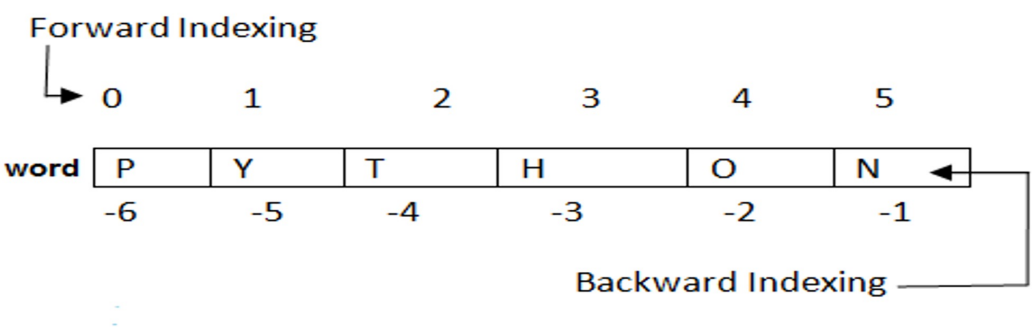
However if we try to provide an index number beyond the given limit then **IndexError** exception will arise

```
>>> word="Python"
>>> print(word[7])
Traceback (most recent call last):
  File "<stdin>", line 1, in <module>
IndexError: string index out of range
>>>
```

Accessing Individual Characters In String

Not only this , Python even allows negative indexing which begins from the end of the string.





e index of second last

Accessing Individual Characters In String

```
>>> word="Python"
>>> print(word[-1])
n
>>> print(word[-2])
o
```

positive indexing

0 — len - 1

negative indexing

-1 — -len

-6	-5	-4	-3	-2	-1
P	Y	T	H	O	N
0	1	2	3	4	5

PYTHON

PYJ

s1 = "PYTHON"

s1 [0] = P

s1 [start : end]

s1 [0 : 2]

$s1[start:stop:step]$

$start = 0$

$stop = len(s1)$

$step = 1$