



Indexing (accessing characters in a string)

- Strings can be indexed - often synonymously called subscripted as well.
- Python Supports both +ve index & -ve index
 - +ve index means left to right (forward direction) -> Forward Indexing
 - -ve index means right to left (backward direction) -> Reverse indexing
- The first character of a string has the index 0.

In [1]:

```
s = "hello"
```

In [2]:

```
s[0]          # first Character
```

Out[2]:

```
'h'
```

In [3]:

```
s[-1]         # Last character s[-1] or s[len(s)-1]
```

Out[3]:

```
'o'
```

In [4]:

```
s[-3]         # using negative indexing
```

Out[4]:

```
'l'
```

In [5]:

```
s[-6]         # If we try to access index with out of the range, we will get index er
```

IndexError

Traceback (most recent call las

t)

Cell In[5], line 2

```
1 # If we try to access index with out of the range, we will get ind  
ex error.
```

```
----> 2 s[-6]
```

IndexError: string index out of range



In [6]:

```
s[1.5]           # If we try to access by using use decimal number, we will get er
```

TypeError

Traceback (most recent call las

t)

Cell In[6], line 2

```
1 # If we try to access by using use decimal number, we will get err  
ors.
```

```
----> 2 s[1.5]
```

TypeError: string indices must be integers, not 'float'

Slicing the strings

[start index (inclusive) : end index (exclusive) : step]

Step can be either +ve or -ve & default value = +1

In [7]:

```
s
```

Out[7]:

```
'hello'
```

In [8]:

```
s[0:4:1]
```

Out[8]:

```
'hell'
```

In [9]:

```
s[0:4:2]
```

Out[9]:

```
'hl'
```

In [10]:

```
s[4:0:-1]           # slicing with decrement
```

Out[10]:

```
'olle'
```



In [11]:

```
s[:4:2]          # default start index = 0
```

Out[11]:

```
'hl'
```

In [12]:



```
s[0::1]          # default end index = len(str)
```

Out[12]:

```
'hello'
```

In [13]:



```
s[0:4]           # default step = +1
```

Out[13]:

```
'hell'
```

In [14]:



```
#print in reverse order  
s[::-1]
```

Out[14]:

```
'olleh'
```

DATA SCIENCE & AI
SIVA RAMA KRISHNA