

# Indexing

```
In [4]: #make a String  
a = "Samoosa Pakora"  
a
```

```
Out[4]: 'Samoosa Pakora'
```

```
In [5]: a[0]
```

```
Out[5]: 'S'
```

```
In [6]: a[1]
```

```
Out[6]: 'a'
```

```
In [7]: a[3]
```

```
Out[7]: 'o'
```

```
In [8]: #Length of Index  
len(a)
```

```
Out[8]: 14
```

```
In [11]: a[0:6]
```

```
Out[11]: 'Samoos'
```

# String Method

```
In [12]: food= "Biryani"  
food
```

```
Out[12]: 'Biryani'
```

```
In [13]: len(food)
```

```
Out[13]: 7
```

```
In [16]: #Capitalized Each Lette  
food.capitalize()
```

Out[16]: 'Biryani'

```
In [18]: #Upper Letters  
food.upper()
```

Out[18]: 'BIRYANI'

```
In [20]: #Lower Letters  
food.lower()
```

Out[20]: 'biryani'

```
In [26]: food.replace("b" , "sh")
```

Out[26]: 'Biryani'

```
In [28]: #Counting the Char from string  
name = "My name is Zeeshan I'm data Scientist"  
name
```

Out[28]: "My name is Zeeshan I'm data Scientist"

```
In [29]: name.count("a")
```

Out[29]: 4

## - Finding an index number in string

```
In [30]: name = "My name is Zeeshan I'm data Scientist"  
name
```

Out[30]: "My name is Zeeshan I'm data Scientist"

```
In [31]: name.find("e")
```

Out[31]: 6

```
In [32]: ### - How to Split a string  
food = "I love biryani and 7up, raita"  
food
```

Out[32]: 'I love biryani and 7up, raita'

```
In [33]: food.split(",")
```

Out[33]: ['I love biryani and 7up', ' raita']

# Basic Data Structure in python

1: Tuples 2: List 3: Dictionaries 4: Set

```
In [35]: ## Tuples
```

```
In [4]: tup1 = (1,"python", True, 2.5)
tup1
```

```
Out[4]: (1, 'python', True, 2.5)
```

```
In [5]: type(tup1)
```

```
Out[5]: tuple
```

```
In [6]: len(tup1)
```

```
Out[6]: 4
```

## indexing in Touple

```
In [8]: tup1[1]
```

```
Out[8]: 'python'
```

```
In [9]: tup1[2]
```

```
Out[9]: True
```

```
In [10]: tup1[3]
```

```
Out[10]: 2.5
```

```
In [11]: tup1[0:3]
```

```
Out[11]: (1, 'python', True)
```

```
In [13]: tup2 =(2, "Zeeshan", 3.5, False)
tup2
```

```
Out[13]: (2, 'Zeeshan', 3.5, False)
```

```
In [17]: tup1 + tup2
```

```
Out[17]: (2, 'Zeeshan', 3.5, False, 2, 'Zeeshan', 3.5, False)
```

```
In [18]: tup1*1 + tup2
```

```
Out[18]: (2, 'Zeeshan', 3.5, False, 2, 'Zeeshan', 3.5, False)
```

```
In [21]: tup3 =(14,25,24,35,40,150,19,86,77,66,55)
tup3
```

```
Out[21]: (14, 25, 24, 35, 40, 150, 19, 86, 77, 66, 55)
```

```
In [22]: min(tup3)
```

```
Out[22]: 14
```

```
In [23]: max(tup3)
```

```
Out[23]: 150
```

tup3\*3

## LIST

```
In [ ]: #List items are ordered, changeable, and allow duplicate values.
#Lists are used to store multiple items in a single variable.
#To determine how many items a list has, use the len() function:
```

```
In [30]: list1 = [2, "Zeeshan", True]
list1
```

```
Out[30]: [2, 'Zeeshan', True]
```

```
In [32]: type(list1)
```

```
Out[32]: list
```

```
In [33]: len(list1)
```

```
Out[33]: 3
```

```
In [35]: list1[2]
```

```
Out[35]: True
```

```
In [36]: list2 = [3,5,"Shani",False]
list2
```

```
Out[36]: [3, 5, 'Shani', False]
```

```
In [37]: list1 + list2
```

```
Out[37]: [2, 'Zeeshan', True, 3, 5, 'Shani', False]
```

```
In [38]: list1*2
```

```
Out[38]: [2, 'Zeeshan', True, 2, 'Zeeshan', True]
```

```
In [41]: list1
```

```
Out[41]: [2, 'Zeeshan', True]
```

```
In [21]: list3 = [1,3,4,5,6,7,8,9,10]
list3
```

```
Out[21]: [1, 3, 4, 5, 6, 7, 8, 9, 10]
```

```
In [29]: list3.count(5)
```

```
Out[29]: 1
```

```
In [30]: list3.append("Happy Life")
```

```
In [31]: list3
```

```
Out[31]: [10, 9, 8, 7, 6, 5, 4, 3, 1, 'Happy Life']
```

```
In [32]: list3.pop()
```

```
Out[32]: 'Happy Life'
```

```
In [36]: list3.sort()
list3
```

```
Out[36]: [1, 3, 4, 5, 6, 7, 8, 9, 10]
```

```
In [38]: list3.append("Happy Life")
list3
```

```
Out[38]: [1, 3, 4, 5, 6, 7, 8, 9, 10, 'Happy Life', 'Happy Life']
```

# Dictionaries

-An Order Collection of Element

- Key and Values
- {}
- Mutable And Change the Values

```
In [45]: # Food and their Prices  
food1 = {"samosa":25, "Raita":20, "Pakroya":50, "chicken Rools":30}  
food1
```

```
Out[45]: {'samosa': 25, 'Raita': 20, 'Pakroya': 50, 'chicken Rools': 30}
```

```
In [46]: type(food1)
```

```
Out[46]: dict
```

```
In [48]: #Extract Data  
keys1 = food1.keys()  
keys1
```

```
Out[48]: dict_keys(['samosa', 'Raita', 'Pakroya', 'chicken Rools'])
```

```
In [49]: values1 = food1.values()  
values1
```

```
Out[49]: dict_values([25, 20, 50, 30])
```

```
In [51]: #Adding New Element  
food1["Takki"]=10  
food1
```

```
Out[51]: {'samosa': 25, 'Raita': 20, 'Pakroya': 50, 'chicken Rools': 30, 'Takki': 10}
```

```
In [52]: #update the Values  
food1 ["Takki"]=15  
food1
```

```
Out[52]: {'samosa': 25, 'Raita': 20, 'Pakroya': 50, 'chicken Rools': 30, 'Takki': 15}
```

```
In [56]: food2 = {"dates":50, "Choclates":200, "saaviyan":1000}  
food2
```

```
Out[56]: {'dates': 50, 'Choclates': 200, 'saaviyan': 1000}
```

```
In [57]:
```

```
#concatinate
food1.update(food2)
food1
```

```
Out[57]: {'samosa': 25,
          'Raita': 20,
          'Pakroya': 50,
          'chicken Rools': 30,
          'Takki': 15,
          'dates': 50,
          'Choclates': 200,
          'saaviyan': 1000}
```

## 4- Set

- Unorderd And Unindexe
- {}
- No Dupblicate Allowed

```
In [62]: s1 = {1,2,5,5,2,"Zeeshan","Qazi Investments","Gujrat", True}
s1
```

```
Out[62]: {1, 2, 5, 'Gujrat', 'Qazi Investments', 'Zeeshan'}
```

```
In [61]: s1.add("Amjad")
s1
```

```
Out[61]: {1, 2, 5, 'Amjad', 'Gujrat', 'Qazi Investments', 'Zeeshan'}
```

```
In [ ]:
```

```
In [ ]:
```