

# Python Brackets & Indexing

There are mainly three types of brackets used in python :

1. parenthesis ()
2. Square Brackets []
3. Curly Brackets {}

[] square bracket is used for Indexing or accessing values within a list, tuple, dictionary or data frame, etc., also to represent a list or an array

() parenthesis is used to call functions and also used in Tuple.

{ } curly brackets are used in dictionaries and sets.

Example:

```
lst =[1,2,4,5] #list
dct={'one': 1, 'two':2, 'three':3} #dictionary
tupl=(1,2,3,4,5) #tuple
set1={1,2,3,4} # set
```

Indexing value '2' from all of the above:

```
lst[1] #gives 2 # use index position to access the value
dct['two'] #gives 2 #use the key name to access the value
tupl[1] #gives 2 # use index position to access the value
#set does not support indexing in python
```

Indexing in Nested List

```
nested=[[1,2],[3,4]]
#getting value of 3

nested[1] #will give [3,4] #accessing second list within the list

nested[1][0] #will give the desired result 3 #accessing the first element of the
second list
```

Consider below DataFrame:

```
import pandas as pd
df=pd.DataFrame([[1,2],[3,4]],columns=['Col1', 'Col2'])
```

	Col1	Col2
0	1	2
1	3	4

### Indexing in DataFrame: Getting the value 2

```
df['Col2'] #will return all values in Col2
```

```
df['Col2'][0] #will return the value at index 0 of Col2
```

### Using iloc in DataFrame to access values

```
df.iloc[0,1] #will give the value 2
```

'iloc' has two arguments, the first one is for rows and the second one is for columns. 0 in the above code gets the elements of the 0th index and 1 is for the second column in the data frame df.

```
df.iloc[:,1] #will give all rows of Col2
```

```
df.iloc[:,:] #will give all rows and columns
```

```
df.iloc[1,:] #will give all columns and second row
```

Now, try the above codes in your Jupyter notebook.

You can refer to the Numpy Indexing here

<https://numpy.org/doc/stable/user/basics.indexing.html>

You can refer to the Pandas Indexing here

[https://pandas.pydata.org/docs/user\\_guide/indexing.html](https://pandas.pydata.org/docs/user_guide/indexing.html)

Happy Learning!