Pandas Basics

Importing the libraries

In [1]:
```
import pandas as pd
```

In [2]:
```
import numpy as np
```

Pandas Series

In [ ]:
```

```

Create Series using list

In [3]:
```
a=[1,2,3,4,5,6]
b=pd.Series(a)
b
```

Out[3]:
```
0    1
1    2
2    3
3    4
4    5
5    6
dtype: int64
```

In [4]:
```
a=['apple','banana','pineapple','orange']
b=pd.Series(a,index=['1','2','3','4'])
b
```

Out[4]:
```
1        apple
2       banana
3    pineapple
4       orange
dtype: object
```

Create Series using dictionary

In [5]:
```
a=pd.Series({'apple':20,'banana':35,'pineapple':15,'orange':30})
```

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

Out[6]:
```
apple        20
banana       35
pineapple    15
orange       30
dtype: int64
```

Data Frame-->Pandas .Dataframe

In [7]:
```
a={'col1':['apple'],'col2':['banana'],'col3':['pineapple'],'col4':['orange']}#using
b=pd.DataFrame(a)
b
```

Out[7]:

	col1	col2	col3	col4
0	apple	banana	pineapple	orange

In [8]:
```
a=[[1,2,3],[4,5,6]]
b=pd.DataFrame(a,columns=['col1','col2','col3'])
b
```

Out[8]:

	col1	col2	col3
0	1	2	3
1	4	5	6

Add a column

In [9]:
```
b['col4']=[7,8]
b
```

Out[9]:

	col1	col2	col3	col4
0	1	2	3	7
1	4	5	6	8

In [10]:
```
tem_df=pd.DataFrame({'city':['mumbai','delhi','banglore','hyderabad'],'tem':[45,40,
tem_df
```

Out[10]:

	city	tem
0	mumbai	45
1	delhi	40
2	banglore	48
3	hyderabad	46

In [11]:
```
hum_df=pd.DataFrame({'city':['mumbai','delhi','chennai','hyderabad'],'hum':[50,55,5
hum_df
```

Out[11]:

	city	hum
0	mumbai	50
1	delhi	55
2	chennai	54
3	hyderabad	60

Combining Dataframes

Combining Dataframes

In [12]:
```
df=pd.concat([tem_df,hum_df]) # concat
df
```

Out[12]:

	city	tem	hum
0	mumbai	45.0	NaN
1	delhi	40.0	NaN
2	banglore	48.0	NaN
3	hyderabad	46.0	NaN
0	mumbai	NaN	50.0
1	delhi	NaN	55.0
2	chennai	NaN	54.0
3	hyderabad	NaN	60.0

In [13]:
```
df=pd.concat([tem_df,hum_df],ignore_index=True)
df
```

Out[13]:

	city	tem	hum
0	mumbai	45.0	NaN
1	delhi	40.0	NaN
2	banglore	48.0	NaN
3	hyderabad	46.0	NaN
4	mumbai	NaN	50.0
5	delhi	NaN	55.0
6	chennai	NaN	54.0
7	hyderabad	NaN	60.0

In [14]:
```
df=pd.concat([tem_df,hum_df],axis=1)
df
```

Out[14]:

	city	tem	city	hum
0	mumbai	45	mumbai	50
1	delhi	40	delhi	55
2	banglore	48	chennai	54
3	hyderabad	46	hyderabad	60

Merging of Dataframes

In [15]:
```
#Inner Join
df=pd.merge(tem_df,hum_df,on='city',how='inner')
df
```

Out[15]:

	city	tem	hum
0	mumbai	45	50
1	delhi	40	55
2	hyderabad	46	60

In [16]:
```
#Outer join
df=pd.merge(tem_df,hum_df,on='city',how='outer')
df
```

Out[16]:

	city	tem	hum
0	mumbai	45.0	50.0
1	delhi	40.0	55.0
2	banglore	48.0	NaN
3	hyderabad	46.0	60.0
4	chennai	NaN	54.0

In [17]:
```
#Left join
df=pd.merge(tem_df,hum_df,on='city',how='left')
df
```

Out[17]:

	city	tem	hum
0	mumbai	45	50.0
1	delhi	40	55.0
2	banglore	48	NaN
3	hyderabad	46	60.0

In [18]:
```
#Right join
df=pd.merge(tem_df,hum_df,on='city',how='right')
df
```

Out[18]:

	city	tem	hum
0	mumbai	45.0	50
1	delhi	40.0	55
2	chennai	NaN	54
3	hyderabad	46.0	60

In [ ]:
```

```