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In [3]: import numpy as np
import pandas as pd

In [5]: df=pd.DataFrame()

In [7]: df

Out[7]: 

In [9]: a1=np.array([10,20,30])
a2=np.array([100,200,300])
a3=np.array([-10,-20,30,40])

In [15]: df1=pd.DataFrame(a1)

In [17]: df1

Out[17]: 
   0
0  10
1  20
2  30

In [25]: df2=pd.DataFrame([a1,a2,a3],columns=['a','b','c','d'])

In [21]: df2

Out[21]:    a   b   c   d
0  10  20  30  NaN
1 100 200 300  NaN
2 -10 -20  30  40.0

In [27]: listdict=[{'a':10,'b':20},{'a':5,'b':10,'c':15}]

In [29]: df3=pd.DataFrame(listdict)

In [31]: df3

Out[31]:    a   b   c
0  10  20  NaN
1   5  10  15.0

In [33]: dicoflist=[{'State':['Assam','Delhi','Kerala'], 'Area':[2344,4545,5445], 'Pop':[3,4,2]}

In [35]: df3=pd.DataFrame(dicoflist)

In [37]: df3

Out[37]:   State Area Pop
0  Assam  2344    3
1  Delhi   4545    4
2  Kerala  5445    2

In [39]: sA=pd.Series([1,2,3,4,5],index=['a','b','c','d','e'])

In [41]: sA

Out[41]: a    1
         b    2
         c    3
         d    4
         e    5
        dtype: int64

In [45]: sB=pd.Series([100,200,300,400,-500],index=['a','b','c','d','e'])

In [47]: sB

Out[47]: a    100
         b    200
         c    300
         d    400
         e   -500
        dtype: int64

In [49]: sC=pd.Series([-10,20,-3000,400,-500],index=['a','b','c','d','e'])

In [51]: sC

Out[51]: a     10
         b     20
         c   -3000
         d     400
         e   -500
        dtype: int64

In [53]: df4=pd.DataFrame(sA)

In [55]: df4

Out[55]: 
   0
a  100
b  200
c  300
d  400
e -500

In [57]: df5=pd.DataFrame(sB)

In [59]: df5

Out[59]: 
   0
a  100
b  200
c  300
d  400
e -500

In [61]: df6=pd.DataFrame(sC)

In [63]: df6

Out[63]: 
   0
a   10
b   20
c -3000
d   400
e  -500

In [71]: df7=pd.DataFrame([sA,sB,sC])

In [73]: df7

Out[73]:    a   b   c   d   e
0  100  200  300  400 -500
1  100  200  300  400 -500
2   10   20 -3000  400 -500

In [77]: from numpy.random import randn
np.random.seed(101)

In [79]: df8=pd.DataFrame(randn(5,4),index='A B C D E'.split(), columns='W X Y Z'.split())

In [81]: df8

Out[81]:      W      X      Y      Z
A  2.706850  0.628133  0.907969  0.503826
B  0.651118 -0.319318 -0.848077  0.605965
C -0.018168  0.740122  0.528813 -0.589001
D  0.188695 -0.758872 -0.933237  0.955057
E  0.190794  1.978757  2.605967  0.683509

In [83]: #indexing

In [87]: df8['W']

Out[87]: A    2.706850
         B    0.651118
         C   -0.018168
         D    0.188695
         E    0.190794
        Name: W, dtype: float64

In [91]: df8[['W','Z']]

Out[91]:      W      Z
A  2.706850  0.628133
B  0.651118 -0.319318
C -0.018168  0.740122
D  0.188695 -0.758872
E  0.190794  1.978757

In [93]: df8.W

Out[93]: A    2.706850
         B    0.651118
         C   -0.018168
         D    0.188695
         E    0.190794
        Name: W, dtype: float64

In [105]: type(df8['W'])

Out[105]: pandas.core.series.Series

In [107]: df8['new']=df8['W']+df8['Y']

Out[107]: A    3.614819
         B   -0.196959
         C   -1.489355
         D   -0.744542
         E    2.797672
        Name: new, dtype: float64

In [109]: df8

Out[109]:      W      X      Y      Z      new
A  2.706850  0.628133  0.907969  0.503826
B  0.651118 -0.319318 -0.848077  0.605965
C -0.018168  0.740122  0.528813 -0.589001
D  0.188695 -0.758872 -0.933237  0.955057
E  0.190794  1.978757  2.605967  0.683509

In [119]: df8.drop('new',axis=1,inplace=True)

In [121]: df8

Out[121]:      W      X      Y      Z
A  2.706850  0.628133  0.907969  0.503826
B  0.651118 -0.319318 -0.848077  0.605965
C -0.018168  0.740122  0.528813 -0.589001
D  0.188695 -0.758872 -0.933237  0.955057
E  0.190794  1.978757  2.605967  0.683509

In [123]: df8.drop('E',axis=0,inplace=True)

In [125]: df8

Out[125]:      W      X      Y      Z
A  2.706850  0.628133  0.907969  0.503826
B  0.651118 -0.319318 -0.848077  0.605965
C -0.018168  0.740122  0.528813 -0.589001
D  0.188695 -0.758872 -0.933237  0.955057

In [133]: df8.loc['A']

Out[133]: W    2.706850
           X   0.628133
           Y   0.907969
           Z   0.503826
          Name: A, dtype: float64

In [135]: df8.iloc[2]

Out[135]: W   -0.018168
           X    0.740122
           Y    0.528813
           Z   -0.589001
          Name: C, dtype: float64

In [137]: df8.loc['B','Y']

Out[137]: -0.848077

In [139]: df8.loc[['A','B'],['W','Y']]

Out[139]:      W      Y
A  2.706850  0.907969
B  0.651118 -0.848077

In [141]: df8

Out[141]:      W      X      Y      Z
A  True  True  True  True
B  True False False  True
C False  True  True False
D  True False False  True

In [147]: df8>0

Out[147]:      W      X      Y      Z
A  2.706850  0.628133  0.907969  0.503826
B  0.651118   NaN   NaN  0.605965
C   NaN  0.740122  0.528813   NaN
```

D 0.188695 NaN NaN 0.955057

In [ ]: