

```
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 -2.018168  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   -2.018168
D    0.188695
E    0.190794
Name: W, dtype: float64

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

Out[91]:
   W  Z
A  2.706850  0.503826
B  0.651118  0.605965
C -2.018168 -0.589001
D  0.188695  0.955057
E  0.190794  0.683509

In [93]: df8.W

Out[93]:
A    2.706850
B    0.651118
C   -2.018168
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    2.796762
Name: new, dtype: float64

In [109]: df8

Out[109]:
   W  X  Y  Z  new
A  2.706850  0.628133  0.907969  0.503826  3.614819
B  0.651118 -0.319318 -0.848077  0.605965 -0.196959
C -2.018168  0.740122  0.528813 -0.589001 -1.489355
D  0.188695 -0.758872 -0.933237  0.955057 -0.744542
E  0.190794  1.978757  2.605967  0.683509  2.796762

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 -2.018168  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 -2.018168  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   -2.018168
X    0.740122
Y    0.528813
Z   -0.589001
Name: C, dtype: float64

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

Out[137]: -0.8480769834036315

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  2.706850  0.628133  0.907969  0.503826
B  0.651118 -0.319318 -0.848077  0.605965
C -2.018168  0.740122  0.528813 -0.589001
D  0.188695 -0.758872 -0.933237  0.955057

In [145]: df8>0

Out[145]:
   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[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 ( ):