Name: - L Prathyusha

In [2]:

```
import pandas as pd
import numpy as np
s=pd.Series([1,2,3,4,5,6,np.nan,8,9,10])
s
```

Out[2]:

```
0     1.0
1     2.0
2     3.0
3     4.0
4     5.0
5     6.0
6     NaN
7     8.0
8     9.0
9    10.0
dtype: float64
```

In [3]:

```
d=pd.date_range('20200301',periods=20)
d
```

Out[3]:

```
DatetimeIndex(['2020-03-01', '2020-03-02', '2020-03-03', '2020-03-04',
               '2020-03-05', '2020-03-06', '2020-03-07', '2020-03-08',
               '2020-03-09', '2020-03-10', '2020-03-11', '2020-03-12',
               '2020-03-13', '2020-03-14', '2020-03-15', '2020-03-16',
               '2020-03-17', '2020-03-18', '2020-03-19', '2020-03-20'],
              dtype='datetime64[ns]', freq='D')
```

In [4]:

```
df=pd.DataFrame(np.random.randn(20,4),index=d,columns=['A','B','C','D'])
df
```

Out[4]:

	A	B	C	D
2020-03-01	0.522817	-0.476129	-0.152122	0.444051
2020-03-02	-2.231822	-0.240317	1.380692	-0.030067
2020-03-03	-1.350133	-0.504875	0.215824	-1.307922
2020-03-04	1.508740	0.366709	1.061191	-1.494791
2020-03-05	-0.144551	-0.394200	0.101134	-0.047091
2020-03-06	0.988498	-0.322970	-1.027783	-0.450379
2020-03-07	0.328301	-1.125735	-0.252377	0.592021
2020-03-08	0.907686	2.594608	-0.422271	-0.827845
2020-03-09	-0.573847	0.377164	0.236165	0.604512
2020-03-10	0.348090	-0.655047	0.357970	0.561269
2020-03-11	-0.162621	0.247776	0.735943	-0.364907
2020-03-12	0.520584	-0.121333	-0.688266	-0.214069
2020-03-13	-0.069652	-0.213386	0.366454	-0.318527
2020-03-14	-0.106307	0.024544	0.207061	1.949863
2020-03-15	-0.018088	1.615833	0.811554	1.073246
2020-03-16	-0.999405	0.579472	0.661482	1.199519
2020-03-17	-0.453376	0.221081	-0.513718	2.486961
2020-03-18	3.049382	0.657670	-0.106499	0.080159
2020-03-19	0.365998	0.915618	-1.449294	0.662102
2020-03-20	0.582923	-0.589333	0.432263	1.598448

In [6]:

```
df1=pd.DataFrame({'A':[1,2,3,4],
                  'B':pd.Timestamp('20210301'),
                  'C':pd.Series(1,index=list(range(4)),dtype='float32'),
                  'D':np.array([5]*4,dtype='int32'),
                  'E':pd.Categorical(['True','False','True','False']),
                  'F':'Christuniversity'})

df1
```

Out[6]:

	A	B	C	D	E	F
0	1	2021-03-01	1.0	5	True	Christuniversity
1	2	2021-03-01	1.0	5	False	Christuniversity
2	3	2021-03-01	1.0	5	True	Christuniversity
3	4	2021-03-01	1.0	5	False	Christuniversity

In [7]:

```
df.dtypes
```

Out[7]:

```
A    float64
B    float64
C    float64
D    float64
dtype: object
```

How to view data?

In [9]:

```
df.dtypes
```

Out[9]:

```
A    float64
B    float64
C    float64
D    float64
dtype: object
```

In [10]:

```
df.head()
```

Out[10]:

	A	B	C	D
2020-03-01	0.522817	-0.476129	-0.152122	0.444051
2020-03-02	-2.231822	-0.240317	1.380692	-0.030067
2020-03-03	-1.350133	-0.504875	0.215824	-1.307922
2020-03-04	1.508740	0.366709	1.061191	-1.494791
2020-03-05	-0.144551	-0.394200	0.101134	-0.047091

In [11]:

```
df.tail()
```

Out[11]:

	A	B	C	D
2020-03-16	-0.999405	0.579472	0.661482	1.199519
2020-03-17	-0.453376	0.221081	-0.513718	2.486961
2020-03-18	3.049382	0.657670	-0.106499	0.080159
2020-03-19	0.365998	0.915618	-1.449294	0.662102
2020-03-20	0.582923	-0.589333	0.432263	1.598448

In [12]:

```
df.index
```

Out[12]:

```
DatetimeIndex(['2020-03-01', '2020-03-02', '2020-03-03', '2020-03-04',
               '2020-03-05', '2020-03-06', '2020-03-07', '2020-03-08',
               '2020-03-09', '2020-03-10', '2020-03-11', '2020-03-12',
               '2020-03-13', '2020-03-14', '2020-03-15', '2020-03-16',
               '2020-03-17', '2020-03-18', '2020-03-19', '2020-03-20'],
              dtype='datetime64[ns]', freq='D')
```

In [13]:

```
df.columns
```

Out[13]:

```
Index(['A', 'B', 'C', 'D'], dtype='object')
```

In [14]:

```
df.to_numpy()
```

Out[14]:

```
array([[ 0.5228165 , -0.4761285 , -0.15212241,  0.44405105],
       [-2.23182167, -0.24031682,  1.38069171, -0.03006673],
       [-1.35013323, -0.50487503,  0.21582421, -1.30792165],
       [ 1.50873975,  0.36670864,  1.06119082, -1.49479105],
       [-0.14455147, -0.39420007,  0.10113439, -0.0470906 ],
       [ 0.98849779, -0.32297015, -1.0277834 , -0.45037878],
       [ 0.32830078, -1.12573459, -0.25237656,  0.59202126],
       [ 0.90768592,  2.59460763, -0.42227118, -0.82784481],
       [-0.57384681,  0.37716371,  0.23616476,  0.60451165],
       [ 0.3480897 , -0.65504685,  0.35796981,  0.56126937],
       [-0.16262058,  0.24777631,  0.73594285, -0.36490725],
       [ 0.52058417, -0.12133307, -0.6882657 , -0.2140688 ],
       [-0.06965237, -0.21338604,  0.36645406, -0.31852729],
       [-0.10630652,  0.02454436,  0.20706107,  1.94986328],
       [-0.01808785,  1.61583279,  0.81155421,  1.07324635],
       [-0.99940453,  0.57947208,  0.6614816 ,  1.19951911],
       [-0.45337598,  0.22108081, -0.51371846,  2.48696133],
       [ 3.04938236,  0.65766962, -0.10649937,  0.08015943],
       [ 0.36599763,  0.91561838, -1.44929356,  0.6621017 ],
       [ 0.58292322, -0.58933325,  0.43226302,  1.59844821]])
```

In [15]:

```
df.describe()
```

Out[15]:

	A	B	C	D
count	20.000000	20.000000	20.000000	20.000000
mean	0.150661	0.147857	0.097770	0.309828
std	1.089918	0.852332	0.697917	1.026044
min	-2.231822	-1.125735	-1.449294	-1.494791
25%	-0.235309	-0.414682	-0.294850	-0.330122
50%	0.155106	-0.048394	0.211443	0.262105
75%	0.537843	0.427741	0.489568	0.764888
max	3.049382	2.594608	1.380692	2.486961

In [16]:

```
df.sort_index(axis=1,ascending=False)
```

Out[16]:

	D	C	B	A
2020-03-01	0.444051	-0.152122	-0.476129	0.522817
2020-03-02	-0.030067	1.380692	-0.240317	-2.231822
2020-03-03	-1.307922	0.215824	-0.504875	-1.350133
2020-03-04	-1.494791	1.061191	0.366709	1.508740
2020-03-05	-0.047091	0.101134	-0.394200	-0.144551
2020-03-06	-0.450379	-1.027783	-0.322970	0.988498
2020-03-07	0.592021	-0.252377	-1.125735	0.328301
2020-03-08	-0.827845	-0.422271	2.594608	0.907686
2020-03-09	0.604512	0.236165	0.377164	-0.573847
2020-03-10	0.561269	0.357970	-0.655047	0.348090
2020-03-11	-0.364907	0.735943	0.247776	-0.162621
2020-03-12	-0.214069	-0.688266	-0.121333	0.520584
2020-03-13	-0.318527	0.366454	-0.213386	-0.069652
2020-03-14	1.949863	0.207061	0.024544	-0.106307
2020-03-15	1.073246	0.811554	1.615833	-0.018088
2020-03-16	1.199519	0.661482	0.579472	-0.999405
2020-03-17	2.486961	-0.513718	0.221081	-0.453376
2020-03-18	0.080159	-0.106499	0.657670	3.049382
2020-03-19	0.662102	-1.449294	0.915618	0.365998
2020-03-20	1.598448	0.432263	-0.589333	0.582923

In [17]:

```
df.sort_values(by='C')
```

Out[17]:

	A	B	C	D
2020-03-19	0.365998	0.915618	-1.449294	0.662102
2020-03-06	0.988498	-0.322970	-1.027783	-0.450379
2020-03-12	0.520584	-0.121333	-0.688266	-0.214069
2020-03-17	-0.453376	0.221081	-0.513718	2.486961
2020-03-08	0.907686	2.594608	-0.422271	-0.827845
2020-03-07	0.328301	-1.125735	-0.252377	0.592021
2020-03-01	0.522817	-0.476129	-0.152122	0.444051
2020-03-18	3.049382	0.657670	-0.106499	0.080159
2020-03-05	-0.144551	-0.394200	0.101134	-0.047091
2020-03-14	-0.106307	0.024544	0.207061	1.949863
2020-03-03	-1.350133	-0.504875	0.215824	-1.307922
2020-03-09	-0.573847	0.377164	0.236165	0.604512
2020-03-10	0.348090	-0.655047	0.357970	0.561269
2020-03-13	-0.069652	-0.213386	0.366454	-0.318527
2020-03-20	0.582923	-0.589333	0.432263	1.598448
2020-03-16	-0.999405	0.579472	0.661482	1.199519
2020-03-11	-0.162621	0.247776	0.735943	-0.364907
2020-03-15	-0.018088	1.615833	0.811554	1.073246
2020-03-04	1.508740	0.366709	1.061191	-1.494791
2020-03-02	-2.231822	-0.240317	1.380692	-0.030067

In [18]:

```
df['C']
```

Out[18]:

```
2020-03-01   -0.152122
2020-03-02    1.380692
2020-03-03    0.215824
2020-03-04    1.061191
2020-03-05    0.101134
2020-03-06   -1.027783
2020-03-07   -0.252377
2020-03-08   -0.422271
2020-03-09    0.236165
2020-03-10    0.357970
2020-03-11    0.735943
2020-03-12   -0.688266
2020-03-13    0.366454
2020-03-14    0.207061
2020-03-15    0.811554
2020-03-16    0.661482
2020-03-17   -0.513718
2020-03-18   -0.106499
2020-03-19   -1.449294
2020-03-20    0.432263
Freq: D, Name: C, dtype: float64
```

In [ ]:

```

```