

```
In [1]: #Operations on DataFrame1
#Creating DataFrame object by using CSV File and Perform Various Operations
```

```
In [2]: import pandas as pd
df=pd.read_csv("D:\\Python-Workspace\\Pandas\\studentmarks1.csv")
print(df,type(df))
```

	htno	name	telugu	english	hindi	maths	science	social
0	100	Ramesh	50	60	66	98	66	55
1	101	Rajesh	45	67	34	67	66	78
2	102	Rossum	56	88	56	99	44	77
3	103	Raji	56	78	34	56	88	55
4	104	Kalyan	51	63	62	93	67	51
5	105	Karthik	48	62	39	68	65	88
6	106	Kambli	53	81	59	92	48	73
7	107	Praveen	46	88	74	86	78	45
8	108	Ganesh	53	62	76	88	76	35
9	109	Nags	55	77	44	77	86	58
10	110	Biswa	66	48	86	95	48	47
11	111	Ritchi	66	68	64	76	98	75
12	104	Kalyan	51	63	62	93	67	51
13	112	shareef	50	63	99	90	76	67
14	113	sonu	60	89	98	87	77	68
15	114	Rajesh	45	67	77	55	66	46
16	115	Rakesh	67	78	88	78	67	49

<class 'pandas.core.frame.DataFrame'>

```
In [3]: #Accessing the data from df----head()
df.head()
```

Out[3]:

	htno	name	telugu	english	hindi	maths	science	social
0	100	Ramesh	50	60	66	98	66	55
1	101	Rajesh	45	67	34	67	66	78
2	102	Rossum	56	88	56	99	44	77
3	103	Raji	56	78	34	56	88	55
4	104	Kalyan	51	63	62	93	67	51

```
In [4]: df.head(3)
```

Out[4]:

	htno	name	telugu	english	hindi	maths	science	social
0	100	Ramesh	50	60	66	98	66	55
1	101	Rajesh	45	67	34	67	66	78
2	102	Rossum	56	88	56	99	44	77

```
In [5]: #Accessing the data from df----tail()
df.tail()
```

Out[5]:

	htno	name	telugu	english	hindi	maths	science	social
12	104	Kalyan	51	63	62	93	67	51
13	112	shareef	50	63	99	90	76	67
14	113	sonu	60	89	98	87	77	68
15	114	Rajesh	45	67	77	55	66	46
16	115	Rakesh	67	78	88	78	67	49

```
In [6]: df.tail(2)
```

Out[6]:

	htno	name	telugu	english	hindi	maths	science	social
15	114	Rajesh	45	67	77	55	66	46
16	115	Rakesh	67	78	88	78	67	49

```
In [7]: df.shape
```

Out[7]: (17, 8)

```
In [9]: df.describe()
```

Out[9]:

	htno	telugu	english	hindi	maths	science	social
count	17.000000	17.000000	17.000000	17.000000	17.000000	17.000000	17.000000
mean	107.294118	54.000000	70.705882	65.764706	82.235294	69.588235	59.882353
std	4.687279	7.141428	11.671358	20.504662	13.917298	14.339887	14.696438
min	100.000000	45.000000	48.000000	34.000000	55.000000	44.000000	35.000000
25%	104.000000	50.000000	63.000000	56.000000	76.000000	66.000000	49.000000
50%	107.000000	53.000000	67.000000	64.000000	87.000000	67.000000	55.000000
75%	111.000000	56.000000	78.000000	77.000000	93.000000	77.000000	73.000000
max	115.000000	67.000000	89.000000	99.000000	99.000000	98.000000	88.000000

```
In [10]: for record in df.iterrows():
        print(record)
```

```
(0, htno      100
name      Ramesh
telugu      50
english     60
hindi       66
maths       98
science     66
social      55
Name: 0, dtype: object)
(1, htno      101
name      Rajesh
telugu      45
english     67
hindi       34
maths       67
science     66
social      78
Name: 1, dtype: object)
(2, htno      102
name      Rossum
telugu      56
english     88
hindi       56
maths       99
science     44
social      77
Name: 2, dtype: object)
(3, htno      103
name      Raji
telugu      56
english     78
hindi       34
maths       56
science     88
social      55
Name: 3, dtype: object)
(4, htno      104
name      Kalyan
telugu      51
english     63
hindi       62
maths       93
science     67
social      51
Name: 4, dtype: object)
(5, htno      105
name      Karthik
telugu      48
english     62
hindi       39
maths       68
science     65
social      88
Name: 5, dtype: object)
(6, htno      106
name      Kambli
telugu      53
english     81
hindi       59
maths       92
science     48
social      73
Name: 6, dtype: object)
(7, htno      107
name      Praveen
telugu      46
english     88
hindi       74
maths       86
science     78
social      45
Name: 7, dtype: object)
(8, htno      108
name      Ganesh
telugu      53
english     62
hindi       76
maths       88
science     76
social      35
Name: 8, dtype: object)
(9, htno      109
name      Nags
telugu      55
english     77
hindi       44
maths       77
science     86
social      58
Name: 9, dtype: object)
(10, htno     110
name      Biswa
telugu      66
english     48
hindi       86
maths       95
science     48
social      47
Name: 10, dtype: object)
(11, htno     111
name      Ritchi
telugu      66
english     68
hindi       64
maths       76
science     98
social      75
Name: 11, dtype: object)
(12, htno     104
name      Kalyan
telugu      51
english     63
hindi       62
maths       93
science     67
social      51
Name: 12, dtype: object)
(13, htno     112
name      shareef
telugu      50
english     63
hindi       99
maths       90
science     76
social      67
Name: 13, dtype: object)
(14, htno     113
name      sonu
telugu      60
english     89
hindi       98
maths       87
science     77
social      68
Name: 14, dtype: object)
(15, htno     114
name      Rajesh
telugu      45
english     67
hindi       77
maths       55
science     66
social      46
Name: 15, dtype: object)
(16, htno     115
name      Rakesh
telugu      67
english     78
hindi       88
maths       78
science     67
social      49
Name: 16, dtype: object)
```

```
In [11]: print(df)
```

	htno	name	telugu	english	hindi	maths	science	social
0	100	Ramesh	50	60	66	98	66	55
1	101	Rajesh	45	67	34	67	66	78
2	102	Rossum	56	88	56	99	44	77
3	103	Raji	56	78	34	56	88	55
4	104	Kalyan	51	63	62	93	67	51
5	105	Karthik	48	62	39	68	65	88
6	106	Kambli	53	81	59	92	48	73
7	107	Praveen	46	88	74	86	78	45
8	108	Ganesh	53	62	76	88	76	35
9	109	Nags	55	77	44	77	86	58
10	110	Biswa	66	48	86	95	48	47
11	111	Ritchi	66	68	64	76	98	75
12	104	Kalyan	51	63	62	93	67	51
13	112	shareef	50	63	99	90	76	67
14	113	sonu	60	89	98	87	77	68
15	114	Rajesh	45	67	77	55	66	46
16	115	Rakesh	67	78	88	78	67	49

```
In [12]: df[6:12]
```

```
Out[12]:
```

	htno	name	telugu	english	hindi	maths	science	social
6	106	Kambli	53	81	59	92	48	73
7	107	Praveen	46	88	74	86	78	45
8	108	Ganesh	53	62	76	88	76	35
9	109	Nags	55	77	44	77	86	58
10	110	Biswa	66	48	86	95	48	47
11	111	Ritchi	66	68	64	76	98	75

```
In [13]: df[::2]
```

```
Out[13]:
```

	htno	name	telugu	english	hindi	maths	science	social
0	100	Ramesh	50	60	66	98	66	55
2	102	Rossum	56	88	56	99	44	77
4	104	Kalyan	51	63	62	93	67	51
6	106	Kambli	53	81	59	92	48	73
8	108	Ganesh	53	62	76	88	76	35
10	110	Biswa	66	48	86	95	48	47
12	104	Kalyan	51	63	62	93	67	51
14	113	sonu	60	89	98	87	77	68
16	115	Rakesh	67	78	88	78	67	49

```
In [14]: df[::-1]
```

```
Out[14]:
```

	htno	name	telugu	english	hindi	maths	science	social
16	115	Rakesh	67	78	88	78	67	49
15	114	Rajesh	45	67	77	55	66	46
14	113	sonu	60	89	98	87	77	68
13	112	shareef	50	63	99	90	76	67
12	104	Kalyan	51	63	62	93	67	51
11	111	Ritchi	66	68	64	76	98	75
10	110	Biswa	66	48	86	95	48	47
9	109	Nags	55	77	44	77	86	58
8	108	Ganesh	53	62	76	88	76	35
7	107	Praveen	46	88	74	86	78	45
6	106	Kambli	53	81	59	92	48	73
5	105	Karthik	48	62	39	68	65	88
4	104	Kalyan	51	63	62	93	67	51
3	103	Raji	56	78	34	56	88	55
2	102	Rossum	56	88	56	99	44	77
1	101	Rajesh	45	67	34	67	66	78
0	100	Ramesh	50	60	66	98	66	55

```
In [15]: df[10:11]
```

```
Out[15]:
```

	htno	name	telugu	english	hindi	maths	science	social
10	110	Biswa	66	48	86	95	48	47

```
In [16]: print(df)
```

	htno	name	telugu	english	hindi	maths	science	social
0	100	Ramesh	50	60	66	98	66	55
1	101	Rajesh	45	67	34	67	66	78
2	102	Rossum	56	88	56	99	44	77
3	103	Raji	56	78	34	56	88	55
4	104	Kalyan	51	63	62	93	67	51
5	105	Karthik	48	62	39	68	65	88
6	106	Kambli	53	81	59	92	48	73
7	107	Praveen	46	88	74	86	78	45
8	108	Ganesh	53	62	76	88	76	35
9	109	Nags	55	77	44	77	86	58
10	110	Biswa	66	48	86	95	48	47
11	111	Ritchi	66	68	64	76	98	75
12	104	Kalyan	51	63	62	93	67	51
13	112	shareef	50	63	99	90	76	67
14	113	sonu	60	89	98	87	77	68
15	114	Rajesh	45	67	77	55	66	46
16	115	Rakesh	67	78	88	78	67	49

```
In [17]: df["name"]
```

```
Out[17]: 0    Ramesh
1    Rajesh
2    Rossum
3     Raji
4    Kalyan
5    Karthik
6    Kambli
7    Praveen
8     Ganesh
9      Nags
10    Biswa
11    Ritchi
12    Kalyan
13  shareef
14     sonu
15    Rajesh
16    Rakesh
Name: name, dtype: object
```

```
In [18]: df[["name", "maths"]]
```

```
Out[18]:
```

	name	maths
0	Ramesh	98
1	Rajesh	67
2	Rossum	99
3	Raji	56
4	Kalyan	93
5	Karthik	68
6	Kambli	92
7	Praveen	86
8	Ganesh	88
9	Nags	77
10	Biswa	95
11	Ritchi	76
12	Kalyan	93
13	shareef	90
14	sonu	87
15	Rajesh	55
16	Rakesh	78

```
In [20]: df[["name","maths","english"]]
```

```
Out[20]:
```

	name	maths	english
0	Ramesh	98	60
1	Rajesh	67	67
2	Rossum	99	88
3	Raji	56	78
4	Kalyan	93	63
5	Karthik	68	62
6	Kambli	92	81
7	Praveen	86	88
8	Ganesh	88	62
9	Nags	77	77
10	Biswa	95	48
11	Ritchi	76	68
12	Kalyan	93	63
13	shareef	90	63
14	sonu	87	89
15	Rajesh	55	67
16	Rakesh	78	78

```
In [21]: df[["name","maths","english"]][10:15]
```

```
Out[21]:
```

	name	maths	english
10	Biswa	95	48
11	Ritchi	76	68
12	Kalyan	93	63
13	shareef	90	63
14	sonu	87	89

```
In [22]: df[["name","maths","english"]][10:11]
```

```
Out[22]:
```

	name	maths	english
10	Biswa	95	48


```
In [23]: df[["name", "maths", "english"]][::2]
```

Out[23]:

	name	maths	english
0	Ramesh	98	60
2	Rossum	99	88
4	Kalyan	93	63
6	Kambli	92	81
8	Ganesh	88	62
10	Biswa	95	48
12	Kalyan	93	63
14	sonu	87	89
16	Rakesh	78	78

```
In [ ]:
```