```
In [1]:  #Export Data Frame Data to CSV File OR Excel File
         import pandas as pd
```

```
In [2]:  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 'pan
das.core.frame.DataFrame'>
```

```
In [3]:  df["total"]=None
         print(df)
```

```
      htno      name  telugu  english  hindi  maths  science  social total
0     100    Ramesh      50       60     66     98       66      55  None
1     101    Rajesh      45       67     34     67       66      78  None
2     102    Rossum      56       88     56     99       44      77  None
3     103      Raji      56       78     34     56       88      55  None
4     104    Kalyan      51       63     62     93       67      51  None
5     105   Karthik      48       62     39     68       65      88  None
6     106    Kambli      53       81     59     92       48      73  None
7     107   Praveen      46       88     74     86       78      45  None
8     108    Ganesh      53       62     76     88       76      35  None
9     109      Nags      55       77     44     77       86      58  None
10    110     Biswa      66       48     86     95       48      47  None
11    111    Ritchi      66       68     64     76       98      75  None
12    104    Kalyan      51       63     62     93       67      51  None
13    112   shareef      50       63     99     90       76      67  None
14    113      sonu      60       89     98     87       77      68  None
15    114    Rajesh      45       67     77     55       66      46  None
16    115    Rakesh      67       78     88     78       67      49  None
```

```
In [4]: df["total"]=df["telugu"]+df["english"]+df["hindi"]+df["maths"]+df["science"]+d
        print(df)
```

	htno	name	telugu	english	hindi	maths	science	social	total
0	100	Ramesh	50	60	66	98	66	55	395
1	101	Rajesh	45	67	34	67	66	78	357
2	102	Rossum	56	88	56	99	44	77	420
3	103	Raji	56	78	34	56	88	55	367
4	104	Kalyan	51	63	62	93	67	51	387
5	105	Karthik	48	62	39	68	65	88	370
6	106	Kambli	53	81	59	92	48	73	406
7	107	Praveen	46	88	74	86	78	45	417
8	108	Ganesh	53	62	76	88	76	35	390
9	109	Nags	55	77	44	77	86	58	397
10	110	Biswa	66	48	86	95	48	47	390
11	111	Ritchi	66	68	64	76	98	75	447
12	104	Kalyan	51	63	62	93	67	51	387
13	112	shareef	50	63	99	90	76	67	445
14	113	sonu	60	89	98	87	77	68	479
15	114	Rajesh	45	67	77	55	66	46	356
16	115	Rakesh	67	78	88	78	67	49	427

```
In [6]: df["percent"]=round((df["total"]/600)*100,2)
        print(df)
```

```
     htno     name   telugu   english   hindi   maths   science   social   total  \
0    100    Ramesh       50        60      66      98        66       55     395
1    101    Rajesh       45        67      34      67        66       78     357
2    102    Rossum       56        88      56      99        44       77     420
3    103      Raji       56        78      34      56        88       55     367
4    104    Kalyan       51        63      62      93        67       51     387
5    105    Karthik      48        62      39      68        65       88     370
6    106    Kambli       53        81      59      92        48       73     406
7    107    Praveen      46        88      74      86        78       45     417
8    108    Ganesh       53        62      76      88        76       35     390
9    109      Nags       55        77      44      77        86       58     397
10   110     Biswa       66        48      86      95        48       47     390
11   111    Ritchi       66        68      64      76        98       75     447
12   104    Kalyan       51        63      62      93        67       51     387
13   112    shareef      50        63      99      90        76       67     445
14   113      sonu       60        89      98      87        77       68     479
15   114    Rajesh       45        67      77      55        66       46     356
16   115    Rakesh       67        78      88      78        67       49     427

     percent
0      65.83
1      59.50
2      70.00
3      61.17
4      64.50
5      61.67
6      67.67
7      69.50
8      65.00
9      66.17
10     65.00
11     74.50
12     64.50
13     74.17
14     79.83
15     59.33
16     71.17
```

```
In [7]: df["grade"]="Null"
        print(df)
```

	htno	name	telugu	english	hindi	maths	science	social	total	\
0	100	Ramesh	50	60	66	98	66	55	395	
1	101	Rajesh	45	67	34	67	66	78	357	
2	102	Rossum	56	88	56	99	44	77	420	
3	103	Raji	56	78	34	56	88	55	367	
4	104	Kalyan	51	63	62	93	67	51	387	
5	105	Karthik	48	62	39	68	65	88	370	
6	106	Kambli	53	81	59	92	48	73	406	
7	107	Praveen	46	88	74	86	78	45	417	
8	108	Ganesh	53	62	76	88	76	35	390	
9	109	Nags	55	77	44	77	86	58	397	
10	110	Biswa	66	48	86	95	48	47	390	
11	111	Ritchi	66	68	64	76	98	75	447	
12	104	Kalyan	51	63	62	93	67	51	387	
13	112	shareef	50	63	99	90	76	67	445	
14	113	sonu	60	89	98	87	77	68	479	
15	114	Rajesh	45	67	77	55	66	46	356	
16	115	Rakesh	67	78	88	78	67	49	427	

	percent	grade
0	65.83	Null
1	59.50	Null
2	70.00	Null
3	61.17	Null
4	64.50	Null
5	61.67	Null
6	67.67	Null
7	69.50	Null
8	65.00	Null
9	66.17	Null
10	65.00	Null
11	74.50	Null
12	64.50	Null
13	74.17	Null
14	79.83	Null
15	59.33	Null
16	71.17	Null

```
In [9]: df.loc[(df["percent"]>=75),"grade"]="DISTINCTION"
        print(df)
```

	htno	name	telugu	english	hindi	maths	science	social	total
0	100	Ramesh	50	60	66	98	66	55	395
1	101	Rajesh	45	67	34	67	66	78	357
2	102	Rossum	56	88	56	99	44	77	420
3	103	Raji	56	78	34	56	88	55	367
4	104	Kalyan	51	63	62	93	67	51	387
5	105	Karthik	48	62	39	68	65	88	370
6	106	Kambli	53	81	59	92	48	73	406
7	107	Praveen	46	88	74	86	78	45	417
8	108	Ganesh	53	62	76	88	76	35	390
9	109	Nags	55	77	44	77	86	58	397
10	110	Biswa	66	48	86	95	48	47	390
11	111	Ritchi	66	68	64	76	98	75	447
12	104	Kalyan	51	63	62	93	67	51	387
13	112	shareef	50	63	99	90	76	67	445
14	113	sonu	60	89	98	87	77	68	479
15	114	Rajesh	45	67	77	55	66	46	356
16	115	Rakesh	67	78	88	78	67	49	427

	percent	grade
0	65.83	Null
1	59.50	Null
2	70.00	Null
3	61.17	Null
4	64.50	Null
5	61.67	Null
6	67.67	Null
7	69.50	Null
8	65.00	Null
9	66.17	Null
10	65.00	Null
11	74.50	Null
12	64.50	Null
13	74.17	Null
14	79.83	DISTINCTION
15	59.33	Null
16	71.17	Null

```
In [10]: df.loc[(df["percent"]>=70)&(df["percent"]<75),"grade"]="FIRST"
         print(df)
```

```
      htno      name   telugu   english   hindi   maths   science   social   total  \
0      100    Ramesh       50        60      66      98        66       55     395
1      101    Rajesh       45        67      34      67        66       78     357
2      102    Rossum       56        88      56      99        44       77     420
3      103      Raji       56        78      34      56        88       55     367
4      104    Kalyan       51        63      62      93        67       51     387
5      105   Karthik       48        62      39      68        65       88     370
6      106    Kambli       53        81      59      92        48       73     406
7      107   Praveen       46        88      74      86        78       45     417
8      108    Ganesh       53        62      76      88        76       35     390
9      109      Nags       55        77      44      77        86       58     397
10     110     Biswa       66        48      86      95        48       47     390
11     111    Ritchi       66        68      64      76        98       75     447
12     104    Kalyan       51        63      62      93        67       51     387
13     112   shareef       50        63      99      90        76       67     445
14     113      sonu       60        89      98      87        77       68     479
15     114    Rajesh       45        67      77      55        66       46     356
16     115    Rakesh       67        78      88      78        67       49     427

      percent        grade
0       65.83         Null
1       59.50         Null
2       70.00        FIRST
3       61.17         Null
4       64.50         Null
5       61.67         Null
6       67.67         Null
7       69.50         Null
8       65.00         Null
9       66.17         Null
10      65.00         Null
11      74.50        FIRST
12      64.50         Null
13      74.17        FIRST
14      79.83   DISTINCTION
15      59.33         Null
16      71.17        FIRST
```

```
In [11]: df.loc[(df["percent"]>=60)&(df["percent"]<70),"grade"]="SECOND"
         print(df)
```

```
    htno      name  telugu  english  hindi  maths  science  social  total  \
0    100    Ramesh      50       60     66     98       66      55    395
1    101    Rajesh      45       67     34     67       66      78    357
2    102    Rossum      56       88     56     99       44      77    420
3    103      Raji      56       78     34     56       88      55    367
4    104    Kalyan      51       63     62     93       67      51    387
5    105   Karthik      48       62     39     68       65      88    370
6    106    Kambli      53       81     59     92       48      73    406
7    107   Praveen      46       88     74     86       78      45    417
8    108    Ganesh      53       62     76     88       76      35    390
9    109      Nags      55       77     44     77       86      58    397
10   110     Biswa      66       48     86     95       48      47    390
11   111    Ritchi      66       68     64     76       98      75    447
12   104    Kalyan      51       63     62     93       67      51    387
13   112   shareef      50       63     99     90       76      67    445
14   113      sonu      60       89     98     87       77      68    479
15   114    Rajesh      45       67     77     55       66      46    356
16   115    Rakesh      67       78     88     78       67      49    427

    percent        grade
0     65.83       SECOND
1     59.50         Null
2     70.00        FIRST
3     61.17       SECOND
4     64.50       SECOND
5     61.67       SECOND
6     67.67       SECOND
7     69.50       SECOND
8     65.00       SECOND
9     66.17       SECOND
10    65.00       SECOND
11    74.50        FIRST
12    64.50       SECOND
13    74.17        FIRST
14    79.83  DISTINCTION
15    59.33         Null
16    71.17        FIRST
```

```
In [12]: df.loc[(df["percent"]<60),"grade"]="THIRD"
         print(df)
```

```
     htno      name  telugu  english  hindi  maths  science  social  total  \
0     100    Ramesh      50       60     66     98       66      55    395
1     101    Rajesh      45       67     34     67       66      78    357
2     102    Rossum      56       88     56     99       44      77    420
3     103      Raji      56       78     34     56       88      55    367
4     104    Kalyan      51       63     62     93       67      51    387
5     105   Karthik      48       62     39     68       65      88    370
6     106    Kambli      53       81     59     92       48      73    406
7     107   Praveen      46       88     74     86       78      45    417
8     108    Ganesh      53       62     76     88       76      35    390
9     109      Nags      55       77     44     77       86      58    397
10    110     Biswa      66       48     86     95       48      47    390
11    111    Ritchi      66       68     64     76       98      75    447
12    104    Kalyan      51       63     62     93       67      51    387
13    112   shareef      50       63     99     90       76      67    445
14    113      sonu      60       89     98     87       77      68    479
15    114    Rajesh      45       67     77     55       66      46    356
16    115    Rakesh      67       78     88     78       67      49    427

     percent        grade
0      65.83       SECOND
1      59.50        THIRD
2      70.00        FIRST
3      61.17       SECOND
4      64.50       SECOND
5      61.67       SECOND
6      67.67       SECOND
7      69.50       SECOND
8      65.00       SECOND
9      66.17       SECOND
10     65.00       SECOND
11     74.50        FIRST
12     64.50       SECOND
13     74.17        FIRST
14     79.83  DISTINCTION
15     59.33        THIRD
16     71.17        FIRST
```

```
In [13]: df.to_csv("D:\\Python-Workspace\\Pandas\\finalstudentresult.csv")
```

```
In [14]: df.to_excel("D:\\Python-Workspace\\Pandas\\final.xlsx")
```

```
In [15]: df.to_csv("D:\\Python-Workspace\\Pandas\\xthclass.txt")
```

```
In [ ]:
```