In [ ]:

```
import pandas as pd
from google.colab import files


uploaded = files.upload()
```

Choose Files No file chosen

Upload widget is only available when the cell has been executed in the current browser session.
Please rerun this cell to enable.

```
Saving student_marks.csv to student_marks.csv
```

In [ ]:

```
df=pd.read_csv('student_marks.csv')
```

In [ ]:

```
df
```

Out[3]:

	Name	Gender	DOB	Maths	Physics	Chemistry	English	Biology	Economics	History
0	John	M	05-04-1988	55	45	56	87	21	52	89
1	Suresh	M	04-05-1987	75	96	78	64	90	61	58
2	Ramesh	M	25-05-1989	25	54	89	76	95	87	56
3	Jessica	F	12-08-1990	78	96	86	63	54	89	75
4	Jennifer	F	02-09-1989	58	96	78	46	96	77	83
5	Annu	F	05-04-1988	45	87	52	89	55	89	87
6	pooja	F	04-05-1987	55	64	61	58	75	58	64
7	Ritesh	M	25-05-1989	54	76	87	56	25	56	76
8	Farha	F	12-08-1990	55	63	89	75	78	75	63
9	Mukesh	M	02-09-1989	96	46	77	83	58	83	46

In [ ]:

```
import datetime
dt=datetime.datetime.now()
```

In [ ]:

```
df['DOB']=pd.to_datetime(df['DOB'])
```

In [ ]:

```
df['year']=df['DOB'].dt.year
```

In [ ]:

```
df.loc[2:]
```

Out[74]:

	Name	Gender	DOB	Maths	Physics	Chemistry	English	Biology	Economics	History
2	Ramesh	M	25-05-1989	25	54	89	76	95	87	56
3	Jessica	F	12-08-1990	78	96	86	63	54	89	75
4	Jennifer	F	02-09-1989	58	96	78	46	96	77	83
5	Annu	F	05-04-1988	45	87	52	89	55	89	87
6	pooja	F	04-05-1987	55	64	61	58	75	58	64
7	Ritesh	M	25-05-1989	54	76	87	56	25	56	76
8	Farha	F	12-08-1990	55	63	89	75	78	75	63
9	Mukesh	M	02-09-1989	96	46	77	83	58	83	46

In [ ]:

```
df.loc[2:,'Gender':]
```

Out[8]:

	Gender	DOB	Maths	Physics	Chemistry	English	Biology	Economics	History	Civics
2	M	25-05-1989	25	54	89	76	95	87	56	74
3	F	12-08-1990	78	96	86	63	54	89	75	45
4	F	02-09-1989	58	96	78	46	96	77	83	53
5	F	05-04-1988	45	87	52	89	55	89	87	52
6	F	04-05-1987	55	64	61	58	75	58	64	61
7	M	25-05-1989	54	76	87	56	25	56	76	87
8	F	12-08-1990	55	63	89	75	78	75	63	89
9	M	02-09-1989	96	46	77	83	58	83	46	77

In [ ]:

```
df.loc[df['Gender']=='M','Name']
#adult_names = titanic.loc[titanic["Age"] > 35, "Name"]
```

Out[20]:

```
0      John
1    Suresh
2    Ramesh
7    Ritesh
9    Mukesh
Name: Name, dtype: object
```

In [ ]:

```
df.loc[df['Gender']=="F",["Gender","Name"]]
```

Out[23]:

	Gender	Name
3	F	Jessica
4	F	Jennifer
5	F	Annu
6	F	pooja
8	F	Farha

In [ ]:

```
df[(df["Gender"]=="M") &( df["Name"]=="Mukesh")]
#df[(df['City']=='newyork')& (df['Salary']>50000)]
```

Out[28]:

	Name	Gender	DOB	Maths	Physics	Chemistry	English	Biology	Economics	History	C
9	Mukesh	M	02-09-1989	96	46	77	83	58	83	46	

In [ ]:

```
df.loc[~( (df["Gender"]=="M") &( df["Name"]=="Mukesh"))]
```

Out[33]:

	Name	Gender	DOB	Maths	Physics	Chemistry	English	Biology	Economics	History	C
0	John	M	05-04-1988	55	45	56	87	21	52	89	
1	Suresh	M	04-05-1987	75	96	78	64	90	61	58	
2	Ramesh	M	25-05-1989	25	54	89	76	95	87	56	
3	Jessica	F	12-08-1990	78	96	86	63	54	89	75	
4	Jennifer	F	02-09-1989	58	96	78	46	96	77	83	
5	Annu	F	05-04-1988	45	87	52	89	55	89	87	
6	pooja	F	04-05-1987	55	64	61	58	75	58	64	
7	Ritesh	M	25-05-1989	54	76	87	56	25	56	76	
8	Farha	F	12-08-1990	55	63	89	75	78	75	63	

In [ ]:

```
df['males'].replace("John","abc")
```

Out[35]:

```
0       abc
1    Suresh
2    Ramesh
3       NaN
4       NaN
5       NaN
6       NaN
7    Ritesh
8       NaN
9    Mukesh
Name: males, dtype: object
```

In [ ]:

```
df
```

Out[36]:

	Name	Gender	DOB	Maths	Physics	Chemistry	English	Biology	Economics	History
0	John	M	05-04-1988	55	45	56	87	21	52	89
1	Suresh	M	04-05-1987	75	96	78	64	90	61	58
2	Ramesh	M	25-05-1989	25	54	89	76	95	87	56
3	Jessica	F	12-08-1990	78	96	86	63	54	89	75
4	Jennifer	F	02-09-1989	58	96	78	46	96	77	83
5	Annu	F	05-04-1988	45	87	52	89	55	89	87
6	pooja	F	04-05-1987	55	64	61	58	75	58	64
7	Ritesh	M	25-05-1989	54	76	87	56	25	56	76
8	Farha	F	12-08-1990	55	63	89	75	78	75	63
9	Mukesh	M	02-09-1989	96	46	77	83	58	83	46

In [ ]:

```
def getgrade(marks):
  marks=0

  if marks>90:
    return 'A'
  elif(marks>=75 and marks<90):
    return 'B'
  else:
    return 'c'
df['grade']=df['Gender'].apply(getgrade)
df
```

Out[54]:

	Name	Gender	DOB	Maths	Physics	Chemistry	English	Biology	Economics	History
0	John	M	05-04-1988	55	45	56	87	21	52	89
1	Suresh	M	04-05-1987	75	96	78	64	90	61	58
2	Ramesh	M	25-05-1989	25	54	89	76	95	87	56
3	Jessica	F	12-08-1990	78	96	86	63	54	89	75
4	Jennifer	F	02-09-1989	58	96	78	46	96	77	83
5	Annu	F	05-04-1988	45	87	52	89	55	89	87
6	pooja	F	04-05-1987	55	64	61	58	75	58	64
7	Ritesh	M	25-05-1989	54	76	87	56	25	56	76
8	Farha	F	12-08-1990	55	63	89	75	78	75	63
9	Mukesh	M	02-09-1989	96	46	77	83	58	83	46

In [ ]:

```
grp=df.groupby('grade').count()
grp
```

Out[63]:

grade	Name	Gender	DOB	Maths	Physics	Chemistry	English	Biology	Economics	History
c	10	10	10	10	10	10	10	10	10	10

In [ ]:

```
grpmaths=df.groupby('Maths').agg(['mean','max','min','count'])
grpmaths
```

Out[69]:

	Physics				Chemistry				English		...	Econon	
	mean	max	min	count	mean	max	min	count	mean	max	...	min	cc
Maths													
25	54.000000	54	54	1	89.000000	89	89	1	76.000000	76	...	87	
45	87.000000	87	87	1	52.000000	52	52	1	89.000000	89	...	89	
54	76.000000	76	76	1	87.000000	87	87	1	56.000000	56	...	56	
55	57.333333	64	45	3	68.666667	89	56	3	73.333333	87	...	52	
58	96.000000	96	96	1	78.000000	78	78	1	46.000000	46	...	77	
75	96.000000	96	96	1	78.000000	78	78	1	64.000000	64	...	61	
78	96.000000	96	96	1	86.000000	86	86	1	63.000000	63	...	89	
96	46.000000	46	46	1	77.000000	77	77	1	83.000000	83	...	83	

8 rows × 28 columns

In [ ]:

```
df['males'].replace("John","abc",inplace=True)
```

In [ ]:

```
df.drop('males',axis=1)
```

Out[71]:

	Name	Gender	DOB	Maths	Physics	Chemistry	English	Biology	Economics	History
0	John	M	05-04-1988	55	45	56	87	21	52	89
1	Suresh	M	04-05-1987	75	96	78	64	90	61	58
2	Ramesh	M	25-05-1989	25	54	89	76	95	87	56
3	Jessica	F	12-08-1990	78	96	86	63	54	89	75
4	Jennifer	F	02-09-1989	58	96	78	46	96	77	83
5	Annu	F	05-04-1988	45	87	52	89	55	89	87
6	pooja	F	04-05-1987	55	64	61	58	75	58	64
7	Ritesh	M	25-05-1989	54	76	87	56	25	56	76
8	Farha	F	12-08-1990	55	63	89	75	78	75	63
9	Mukesh	M	02-09-1989	96	46	77	83	58	83	46

In [ ]:

```
df
```

Out[72]:

	Name	Gender	DOB	Maths	Physics	Chemistry	English	Biology	Economics	History
0	John	M	05-04-1988	55	45	56	87	21	52	89
1	Suresh	M	04-05-1987	75	96	78	64	90	61	58
2	Ramesh	M	25-05-1989	25	54	89	76	95	87	56
3	Jessica	F	12-08-1990	78	96	86	63	54	89	75
4	Jennifer	F	02-09-1989	58	96	78	46	96	77	83
5	Annu	F	05-04-1988	45	87	52	89	55	89	87
6	pooja	F	04-05-1987	55	64	61	58	75	58	64
7	Ritesh	M	25-05-1989	54	76	87	56	25	56	76
8	Farha	F	12-08-1990	55	63	89	75	78	75	63
9	Mukesh	M	02-09-1989	96	46	77	83	58	83	46

In [ ]:

```
data1={'empid':list(range(1,6)),'empdept':['HR','admin','sales','CRM','IT']}
df2=pd.DataFrame(data1)
```

In [ ]:

```
data2={'deptid':list(range(101,106)),'count':[20,50,60,30,10]}
df3=pd.DataFrame(data2)
```

In [ ]:

```
pd.concat([df2,df3])
```

Out[48]:

	empid	empdept	deptid	count
0	1.0	HR	NaN	NaN
1	2.0	admin	NaN	NaN
2	3.0	sales	NaN	NaN
3	4.0	CRM	NaN	NaN
4	5.0	IT	NaN	NaN
0	NaN	NaN	101.0	20.0
1	NaN	NaN	102.0	50.0
2	NaN	NaN	103.0	60.0
3	NaN	NaN	104.0	30.0
4	NaN	NaN	105.0	10.0

In [ ]:

```
pd.concat([df2,df3],ignore_index=True)
```

Out[50]:

	empid	empdept	deptid	count
0	1.0	HR	NaN	NaN
1	2.0	admin	NaN	NaN
2	3.0	sales	NaN	NaN
3	4.0	CRM	NaN	NaN
4	5.0	IT	NaN	NaN
5	NaN	NaN	101.0	20.0
6	NaN	NaN	102.0	50.0
7	NaN	NaN	103.0	60.0
8	NaN	NaN	104.0	30.0
9	NaN	NaN	105.0	10.0

In [ ]:

```

```