

```
import pandas as pd
df=pd.DataFrame({"a":[4,5,6], "b":[7,8,9], "c":
[10,11,12]},index=[1,2,3])
print(df)
```

	a	b	c
1	4	7	10
2	5	8	11
3	6	9	12

```
import pandas as pd
data=[1,2,3,4]
df=pd.DataFrame(data)
print(df)
```

	0
0	1
1	2
2	3
3	4

```
import pandas as pd
data=[['Bob',10],['Alex',12]]
df=pd.DataFrame(data,index=["Name","Age"])
print(df)
```

	0	1
Name	Bob	10
Age	Alex	12

```
import pandas as pd
data={'car':['BMW',"Audi","Ford"], 'passing':[3,7,2]}
myvar=pd.DataFrame(data)
print(myvar)
```

	car	passing
0	BMW	3
1	Audi	7
2	Ford	2

```
import pandas as pd
data=[{'a':1,'b':2},{ 'a':5,'b':10,'c':20}]
df=pd.DataFrame(data)
print(df)
print()
df=pd.DataFrame(data,index=['First','Second'])
print(df)
print()
df1=pd.DataFrame(data,index=['First','Second'],columns=['a','b'])
print(df1)
```

	a	b	c
0	1	2	NaN
1	5	10	20.0

	a	b	c
First	1	2	NaN
Second	5	10	20.0

	a	b
First	1	2
Second	5	10

```
import pandas as pd
data={'Name':['AAA', 'BBB', 'CCC'], 'Age':[20,21,22], 'Height':
[5.3,5.6,5.9]}
df=pd.DataFrame(data)
city=['Chennai', 'Bangalore', 'Pune']
df['City']=city
print(df)
degree=['Msc', 'B.com', 'Btech']
df['Degree']=degree
print()
print(df)
del df['Degree']
print()
print("After Deletion of Column 5")
print(df)
print()
df.drop(['City'],axis=1,inplace=True) #1= column, 0=row
print(df)
print()
df.pop('Age')
print(df)
print()
df.rename(columns={'Height':'HG'},inplace=True)
print(df)
print()
degree=['Msc', 'B.com', 'Btech']
df['Degree']=degree
print(df)
df.drop(0,axis=0,inplace=False)
print()
print(df)
print()
print(df[['Name', 'HG']])
print()
print(df.filter())
```

	Name	Age	Height	City
0	AAA	20	5.3	Chennai

1	BBB	21	5.6	Bangalore
2	CCC	22	5.9	Pune

	Name	Age	Height	City	Degree
0	AAA	20	5.3	Chennai	Msc
1	BBB	21	5.6	Bangalore	B.com
2	CCC	22	5.9	Pune	Btech

After Deletion of Column 5

	Name	Age	Height	City
0	AAA	20	5.3	Chennai
1	BBB	21	5.6	Bangalore
2	CCC	22	5.9	Pune

	Name	Age	Height
0	AAA	20	5.3
1	BBB	21	5.6
2	CCC	22	5.9

	Name	Height
0	AAA	5.3
1	BBB	5.6
2	CCC	5.9

	Name	HG
0	AAA	5.3
1	BBB	5.6
2	CCC	5.9

	Name	HG	Degree
0	AAA	5.3	Msc
1	BBB	5.6	B.com
2	CCC	5.9	Btech

	Name	HG	Degree
0	AAA	5.3	Msc
1	BBB	5.6	B.com
2	CCC	5.9	Btech

	Name	HG
0	AAA	5.3
1	BBB	5.6
2	CCC	5.9

```
import pandas as pd
df=pd.DataFrame([[1,2],[3,4]],columns=['a','b'])
df2=pd.DataFrame([[5,6],[7,8]],columns=['a','b'])
df=pd.concat([df,df2],ignore_index=True)
```

```
print()
print(df)
```

	a	b
0	1	2
1	3	4
2	5	6
3	7	8

```
import pandas as pd
data={'Name':['Alice','Bob'],'Age':[20,21],'Gender':
['F','M'],'Height':[5.3,5.8]}
df=pd.DataFrame(data)
print(df['Name'])
print()
print(df)
```

	Name
0	Alice
1	Bob

Name: Name, dtype: object

	Name	Age	Gender	Height
0	Alice	20	F	5.3
1	Bob	21	M	5.8

```
import pandas as pd
data={'Name':['jai','anuj'],'age':[24,26],'address':
['delhi','jaipur'],'height':[1.54,3.55]}
df=pd.DataFrame(data)
```

```
df.filter(like='ame')
```

	Name
0	jai
1	anuj

```
import pandas as pd
data={'Name':['jai','anuj'],'age':[24,26],'address':
['delhi','jaipur'],'height':[1.54,3.55]}
df=pd.DataFrame(data)
df.filter(regex='e|a',axis=1)
```

	Name	age	address	height
0	jai	24	delhi	1.54
1	anuj	26	jaipur	3.55

```
import pandas as pd
data={'Name':['jai','anuj','Mano','Mano'],'age':
[24,26,24,24],'address':
['delhi','jaipur','Chennai','Chennai'],'height':[1.54,3.55,4.2,4.2]}
```

```
df=pd.DataFrame(data)
df=df.drop_duplicates()
print()
df
```

	Name	age	address	height
0	jai	24	delhi	1.54
1	anuj	26	jaipur	3.55
2	Mano	24	Chennai	4.20

```
import pandas as pd
data={'Name':['jai','anuj','Mano','Mano'],'age':
[24,26,24,24],'address':
['delhi','jaipur','Chennai','rajasthan'],'height':[1.54,3.55,4.2,4.5]}
df=pd.DataFrame(data)
df=df.drop_duplicates(subset=['Name','age'],keep='last')
print()
df
```

	Name	age	address	height
0	jai	24	delhi	1.54
1	anuj	26	jaipur	3.55
3	Mano	24	rajasthan	4.50

```
import pandas as pd
data={'Name':['jai','anuj','Mano','Mano','Nan'],'age':
[24,26,24,24,20],'address':
['delhi','jaipur','Chennai','rajasthan','Switz'],'height':
[1.54,3.55,4.2,4.5,5]}
df=pd.DataFrame(data)
df_sample=df.sample(frac=0.2)
print(df_sample)
print()
df_sample=df.sample(n=2,axis=1)
print(df_sample)
```

	Name	age	address	height
1	anuj	26	jaipur	3.55

	age	address
0	24	delhi
1	26	jaipur
2	24	Chennai
3	24	rajasthan
4	20	Switz

```

import pandas as pd
data={'Name':['jai', 'anuj', 'Mano', 'Nan'], 'age':[24,26,24,20], 'salary':
[20000,30000,50000,90000], 'gender':['M', 'F', 'M', 'M']}
df=pd.DataFrame(data)
top_salaries=df.nlargest(2,columns='salary')
print(top_salaries)
print()
bottom_salaries=df.nsmallest(2,columns='salary')
print(bottom_salaries)
df=df.query('age>24 or salary>=50000')
print()
print(df)
print()
df=df.query('Name.str.contains("n")')
print(df)
print()
df=df.query('gender=="M" and age<25')
print(df)

```

	Name	age	salary	gender
3	Nan	20	90000	M
2	Mano	24	50000	M

	Name	age	salary	gender
0	jai	24	20000	M
1	anuj	26	30000	F

	Name	age	salary	gender
1	anuj	26	30000	F
2	Mano	24	50000	M
3	Nan	20	90000	M

	Name	age	salary	gender
1	anuj	26	30000	F
2	Mano	24	50000	M
3	Nan	20	90000	M

	Name	age	salary	gender
2	Mano	24	50000	M
3	Nan	20	90000	M

```

import pandas as pd
data={'Name':['jai', 'anuj', 'Mano', 'Nan'], 'age':[24,26,24,20], 'salary':
[20000,30000,50000,90000], 'gender':['M', 'F', 'M', 'M']}
df=pd.DataFrame(data)
df.loc[:, 'age']

```

0	24
1	26
2	24

```
3    20
Name: age, dtype: int64
```

```
import pandas as pd
data={'Name':['jai','anuj','Mano','Nan'],'age':[24,26,24,20],'salary':
[20000,30000,50000,90000],'gender':['M','F','M','M']}
df=pd.DataFrame(data)
df.iloc[:,2]
```

```
0    20000
1    30000
2    50000
3    90000
Name: salary, dtype: int64
```

```
import pandas as pd
data={'Name':['jai','anuj','Mano','Nan'],'age':[24,26,24,20],'salary':
[20000,30000,50000,90000],'gender':['M','F','M','M']}
df=pd.DataFrame(data)
df.loc[:,['age','gender']]
```

	age	gender
0	24	M
1	26	F
2	24	M
3	20	M

```
import pandas as pd
data={'Name':['jai','anuj','Mano','Nan'],'age':[24,26,24,20],'salary':
[20000,30000,50000,90000],'gender':['M','F','M','M']}
df=pd.DataFrame(data)
df.iloc[:,0]
```

```
0    jai
1    anuj
2    Mano
3    Nan
Name: Name, dtype: object
```

```
import pandas as pd
data={'Name':['jai','anuj','Mano','Nan'],'age':[24,26,24,20],'salary':
[20000,30000,50000,90000],'gender':['M','F','M','M']}
df=pd.DataFrame(data)
df_fil=df[df['age']>=24]
print(df_fil)
```

	Name	age	salary	gender
0	jai	24	20000	M
1	anuj	26	30000	F
2	Mano	24	50000	M

```
import pandas as pd
data={'Name':['jai','anuj','Mano','Nan'],'age':[24,26,24,20],'salary':
[20000,30000,50000,90000],'gender':['M','F','M','M']}
df=pd.DataFrame(data)
df_fil=df[(df['age']>=24) & (df['salary']>=50000)]
print(df_fil)
```

	Name	age	salary	gender
2	Mano	24	50000	M

```
import pandas as pd
data={'Name':['jai','anuj','Mano','Nan'],'age':[24,26,24,20],'salary':
[20000,30000,50000,90000],'gender':['M','F','M','M']}
df=pd.DataFrame(data)
df_fil=df[df['Name'].str.startswith(('N','M'))]
print(df_fil)
```

	Name	age	salary	gender
2	Mano	24	50000	M
3	Nan	20	90000	M

```
import pandas as pd
data={'Name':['jai','anuj','Mano','Nan'],'age':[24,26,24,26],'salary':
[20000,30000,50000,90000],'gender':['M','F','M','M']}
df=pd.DataFrame(data)
print(df.tail(2))
print()
print(df.head(1))
print()
df.info()
```

	Name	age	salary	gender
2	Mano	24	50000	M
3	Nan	26	90000	M

	Name	age	salary	gender
0	jai	24	20000	M

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 4 entries, 0 to 3
Data columns (total 4 columns):
#   Column   Non-Null Count  Dtype
---  -
0    Name     4 non-null      object
1    age       4 non-null      int64
2    salary    4 non-null      int64
3    gender    4 non-null      object
dtypes: int64(2), object(2)
memory usage: 260.0+ bytes
```



```
import pandas as pd
data={'Name':['jai', 'anuj', 'Mano', 'Nan'], 'age':[24,26,24,26], 'salary':
[20000,30000,50000,90000], 'gender':['M', 'F', 'M', 'M']}
df=pd.DataFrame(data)
print(df.describe())
```

	age	salary
count	4.000000	4.000000
mean	25.000000	47500.000000
std	1.154701	30956.959368
min	24.000000	20000.000000
25%	24.000000	27500.000000
50%	25.000000	40000.000000
75%	26.000000	60000.000000
max	26.000000	90000.000000

```
import pandas as pd
data={'Name':['jai', 'anuj', 'Mano', 'Nan'], 'age':[24,26,24,26], 'salary':
[20000,30000,50000,90000], 'gender':['M', 'F', 'M', 'M']}
df=pd.DataFrame(data)
df_sort=df.sort_values(by='age',ascending=False)
print(df_sort)
```

	Name	age	salary	gender
1	anuj	26	30000	F
3	Nan	26	90000	M
0	jai	24	20000	M
2	Mano	24	50000	M

```
import pandas as pd
data={'Name':['jai', 'anuj', 'Mano', 'Nan', 'Alice'], 'age':
[24,26,24,26,24], 'salary':[20000,30000,50000,90000,70000], 'gender':
['M', 'F', 'M', 'M', 'F']}
df=pd.DataFrame(data)
group=df.groupby('gender').mean()['salary']
print(group)
```

```
gender
F    50000.000000
M    53333.333333
Name: salary, dtype: float64
```

```
C:\Users\admin\AppData\Local\Temp\ipykernel_19648\1665725247.py:4:
FutureWarning: The default value of numeric_only in
DataFrameGroupBy.mean is deprecated. In a future version, numeric_only
will default to False. Either specify numeric_only or select only
columns which should be valid for the function.
group=df.groupby('gender').mean()['salary']
```