In [1]:

```
import pandas as pd
data={'Name':['Jai','Princi','Gaurav','Anuj'],'Age':[27,24,22,32],'Address'
df=pd.DataFrame(data)
print(df)
df.rename(columns={'Address':'place'},inplace=True)
print(df)
```

```
     Name  Age    Address
0     Jai   27      Delhi
1  Princi   24     Kanpur
2  Gaurav   22  Allahabad
3    Anuj   32    Kannauj
     Name  Age      place
0     Jai   27      Delhi
1  Princi   24     Kanpur
2  Gaurav   22  Allahabad
3    Anuj   32    Kannauj
```

In [2]:

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

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

In [3]:

```
import pandas as pd
data={'Name':['Jai','Princi','Gaurav','Anuj'],'Age':[27,24,22,32],'Address'
df=pd.DataFrame(data)
df
df.drop(0,axis=0,inplace=True)
df
```

Out[3]:

	Name	Age	Address
1	Princi	24	Kanpur
2	Gaurav	22	Allahabad
3	Anuj	32	Kannauj

In [4]:

```
import pandas as pd
data={'name':['Alice','Bob','Charlie','Dave'],'age':[25,32,18,47],'gender':
df=pd.DataFrame(data)
df=df['name']
print(df)
```

```
0      Alice
1        Bob
2    Charlie
3       Dave
Name: name, dtype: object
```

In [5]:
```
import pandas as pd
data={'Name':['jai','anuj'],'Age':[12,25],'Address':['Delhi','Kanpur'],'Qua
df=pd.DataFrame(data)
print(df[['Name','Qualification']])
```

```
   Name Qualification
0   jai           Msc
1  anuj            MA
```

In [6]:
```
import pandas as pd
data={'Name':['jai','anuj'],'Age':[12,25],'Address':['Delhi','Kanpur'],'Qua
df=pd.DataFrame(data)
df.filter(items=['Name','Age'])
```

Out[6]:

	Name	Age
0	jai	12
1	anuj	25

In [7]:
```
import pandas as pd
data={'Name':['Alice','Bob','Charlie','Dave'],'age':[25,56,23,42],'gender':
df=pd.DataFrame(data)
df.filter(regex='e|a',axis=1)
```

Out[7]:

	Name	age	gender	height
0	Alice	25	F	1.62
1	Bob	56	M	1.78
2	Charlie	23	M	1.65
3	Dave	42	M	1.83

In [8]:
```
import pandas as pd
data={'name':['Alice','Bob','Charlie','Alice'],'age':[25,56,23,42],'gender'
df=pd.DataFrame(data)
df=df.drop_duplicates()
df
```

Out[8]:

	name	age	gender	height
0	Alice	25	F	1.62
1	Bob	56	M	1.78
2	Charlie	23	M	1.65
3	Alice	42	M	1.83

In [9]:

```
import pandas as pd
data={'name':['Alice','Bob','Charlie','Alice'],'age':[25,56,23,42],'salary'
df=pd.DataFrame(data)
top_salaries=df.nlargest(2,columns='salary')
print(top_salaries)
```

```
    name  age  salary
1    Bob   56  600000
3  Alice   42  200000
```

In [10]:

```
import pandas as pd
data={'name':['Alice','Bob','Charlie','Alice'],'age':[25,56,23,42],'salary'
df=pd.DataFrame(data)
top_salaries=df.nsmallest(2,columns='salary')
print(top_salaries)
```

```
      name  age  salary
0    Alice   25    5000
2  Charlie   23   80000
```

In [11]:

```
import pandas as pd
data={'name':['Alice','Bob','Charlie','Alice'],'age':[25,56,23,42],'gender'
df=pd.DataFrame(data)
df=df.query('age >= 30')
print(df)
```

```
    name  age gender  height
1    Bob   56      M    1.78
3  Alice   42      M    1.83
```

In [12]:

```
import pandas as pd
data={'name':['Alice','Bob','Charlie','Alice'],'age':[25,56,23,42],'gender'
df=pd.DataFrame(data)
df=df.query('name.str.contains("e") and height > 1.7')
print(df)
```

```
    name  age gender  height
3  Alice   42      M    1.83
```

In [13]:

```
import pandas as pd
data={'name':['Alice','Bob','Charlie','Alice'],'age':[25,56,23,42],'gender'
df=pd.DataFrame(data)
df=df.query('gender == ["F","M"] and height > 1.7')
print(df)
```

```
    name  age gender  height
1    Bob   56      M    1.78
3  Alice   42      M    1.83
```

In [14]:

```
import pandas as pd
data={'name':['Alice','Bob','Charlie','Alice'],'age':[25,56,23,42],'gender'
df=pd.DataFrame(data)
df.loc[:,'age']
```

Out[14]:

```
0    25
1    56
2    23
3    42
Name: age, dtype: int64
```

In [15]:

```
import pandas as pd
data={'name':['Alice','Bob','Charlie','Alice'],'age':[25,56,23,42],'gender'
df=pd.DataFrame(data)
df.iloc[:,1]
```

Out[15]:

```
0    25
1    56
2    23
3    42
Name: age, dtype: int64
```

In [16]:

```
import pandas as pd
data={'name':['Alice','Bob','Charlie','Alice'],'age':[25,56,23,42],'gender'
df=pd.DataFrame(data)
df.loc[:,['name','age']]
```

Out[16]:

	name	age
0	Alice	25
1	Bob	56
2	Charlie	23
3	Alice	42

In [17]:

```
import pandas as pd
data={'name':['Alice','Bob','Charlie','Alice'],'age':[25,56,23,42],'gender'
df=pd.DataFrame(data)
df.iloc[:,0]
```

Out[17]:

```
0      Alice
1        Bob
2    Charlie
3      Alice
Name: name, dtype: object
```

In [18]:

```
import pandas as pd
data={'name':['Alice','Bob','Charlie','Alice'],'age':[25,56,23,42],'gender'
df=pd.DataFrame(data)
df_filtered=df[df['age']>30]
print(df_filtered)
```

```
    name  age gender  height
1    Bob   56      M    1.78
3  Alice   42      M    1.83
```

In [19]:

```
import pandas as pd
data={'name':['Alice','Bob','Charlie','Alice'],'age':[25,56,23,42],'gender'
df=pd.DataFrame(data)
df_filtered=df[(df['gender']=='M') & (df['height']>1.7)]
print(df_filtered)
```

```
    name  age gender  height
1    Bob   56      M    1.78
3  Alice   42      M    1.83
```

In [20]:

```
import pandas as pd
data={'name':['Alice','Bob','Charlie','Alice'],'age':[25,56,23,42],'gender'
df=pd.DataFrame(data)
df_filtered=df[df['name'].str.startswith(('A','C'))]
print(df_filtered)
```

```
      name  age gender  height
0    Alice   25      F    1.62
2  Charlie   23      M    1.65
3    Alice   42      M    1.83
```

In [21]:

```
import pandas as pd
data={'Name':['John','Sarah','Mike','Emily','David'],'Age':[25,31,29,35,27]
df=pd.DataFrame(data)
print(df.tail(3))
```

```
    Name  Age Gender  Salary
2   Mike   29      M   60000
3  Emily   35      F   80000
4  David   27      M   55000
```

In [22]:

```
import pandas as pd
data={'Name':['John','Sarah','Mike','Emily','David'],'Age':[25,31,29,35,27]
df=pd.DataFrame(data)
print(df.head(3))
```

```
    Name  Age Gender  Salary
0   John   25      M   50000
1  Sarah   31      F   70000
2   Mike   29      M   60000
```

In [23]:

```
import pandas as pd
data={'Name':['John','Sarah','Mike','Emily','David'],'Age':[25,31,29,35,27]
df=pd.DataFrame(data)
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 5 entries, 0 to 4
Data columns (total 4 columns):
 #   Column  Non-Null Count  Dtype 
---  ------  --------------  ----- 
 0   Name    5 non-null      object
 1   Age     5 non-null      int64 
 2   Gender  5 non-null      object
 3   Salary  5 non-null      int64 
dtypes: int64(2), object(2)
memory usage: 292.0+ bytes
```

In [24]:

```
import pandas as pd
data={'Name':['John','Sarah','Mike','Emily','David'],'Age':[25,31,29,35,27]
df=pd.DataFrame(data)
print(df.describe())
```

```
             Age        Salary
count   5.000000      5.000000
mean   29.400000  63000.000000
std     3.847077  12041.594579
min    25.000000  50000.000000
25%    27.000000  55000.000000
50%    29.000000  60000.000000
75%    31.000000  70000.000000
max    35.000000  80000.000000
```

In [25]:

```
import pandas as pd
data={'Name':['John','Sarah','Mike','Emily','David'],'Age':[25,31,29,35,27]
df=pd.DataFrame(data)
df_sorted=df.sort_values(by='Age',ascending=False)
print(df_sorted)
```

```
    Name  Age  Score
3  Emily   35     95
1  Sarah   31     80
2   Mike   29     85
4  David   27     78
0   John   25     90
```

In [26]:

```
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_17420\3536453158.py:6: FutureW
arning: The default value of numeric_only in DataFrameGroupBy.mean is depr
ecated. In a future version, numeric_only will default to False. Either sp
ecify numeric_only or select only columns which should be valid for the fu
nction.
  group=df.groupby('gender').mean()['salary']
```

In [ ]: