In [1]:
```
import numpy as np
import pandas as pd
```

In [3]:
```
df = pd.read_csv('D:\\24 - Machine_Learning\\download files\\df1.csv')
df
# in this method we define the path where we have our file
```

Out[3]:

	A	B	C	D
0	A0	B0	C0	D0
1	A1	B1	C1	D1
2	A2	B2	C2	D2
3	A3	B3	C3	D3

In [4]:
```
df = pd.read_csv('df1.csv')
df
# in this method we go to home page of jupyter and we upload our file
# so that we dont require to mention the path
```

Out[4]:

	A	B	C	D
0	A0	B0	C0	D0
1	A1	B1	C1	D1
2	A2	B2	C2	D2
3	A3	B3	C3	D3

In [5]:
```
df.to_csv("D:\\24 - Machine_Learning\\df1.csv", index=False)
# to save the file in our system
```

In [10]:
```
# EXCEL INPUT
df = pd.read_excel('D:\\24 - Machine_Learning\\download files\\Excel_Sample.xlsx', sheet_name = 'Sheet1')
df
# Reading the excel(.xlsx) file
```

Out[10]:

	Unnamed: 0.1	Unnamed: 0	a	b	c	d
0	0	0	0	1	2	3
1	1	1	1	4	5	6	7
2	2	2	2	8	9	10	11
3	3	3	3	12	13	14	15

In [12]:
```
df.drop('Unnamed: 0', axis=1, inplace=True)
df
# to remove any column from the table
```

Out[12]:

	Unnamed: 0.1	a	b	c	d
0	0	0	1	2	3
1	1	4	5	6	7
2	2	8	9	10	11
3	3	12	13	14	15

In [13]:
```
# EXCEL OUPUT
df.to_excel('Excel_Sample.xlsx', sheet_name = 'Sheet1')
```

In [14]:
```
# JOINING & CONCATENATING
df1 = pd.read_csv('D:\\24 - Machine_Learning\\download files\\df1.csv')
df1
```

Out[14]:

	A	B	C	D
0	A0	B0	C0	D0
1	A1	B1	C1	D1
2	A2	B2	C2	D2
3	A3	B3	C3	D3

In [15]:
```
df2 = pd.read_csv('D:\\24 - Machine_Learning\\download files\\df2.csv')
df2
```

Out[15]:

	A	B	C	D
0	A4	B4	C4	D4
1	A5	B5	C5	D5
2	A6	B6	C6	D6
3	A7	B7	C7	D7

In [16]:
```
df3 = pd.read_csv('D:\\24 - Machine_Learning\\download files\\df3.csv')
df3
```

Out[16]:

	A	B	C	D
0	A8	B8	C8	D8
1	A9	B9	C9	D9
2	A10	B10	C10	D10
3	A11	B11	C11	D11

In [17]:
```
# CONCATENATION
df4 = pd.concat([df1, df2, df3])
df4
```

Out[17]:

	A	B	C	D
0	A0	B0	C0	D0
1	A1	B1	C1	D1
2	A2	B2	C2	D2
3	A3	B3	C3	D3
0	A4	B4	C4	D4
1	A5	B5	C5	D5
2	A6	B6	C6	D6
3	A7	B7	C7	D7
0	A8	B8	C8	D8
1	A9	B9	C9	D9
2	A10	B10	C10	D10
3	A11	B11	C11	D11

In [18]:
```
df4.reset_index(inplace=True)
df4
# to make the index of df4 in order
```

Out[18]:

	index	A	B	C	D
0	0	A0	B0	C0	D0
1	1	A1	B1	C1	D1
2	2	A2	B2	C2	D2
3	3	A3	B3	C3	D3
4	0	A4	B4	C4	D4
5	1	A5	B5	C5	D5
6	2	A6	B6	C6	D6
7	3	A7	B7	C7	D7
8	0	A8	B8	C8	D8
9	1	A9	B9	C9	D9
10	2	A10	B10	C10	D10
11	3	A11	B11	C11	D11

In [21]:
```
df4.drop(['index'], axis = 1, inplace = True)
df4
# here we drop  the extra index column
```

Out[21]:

	A	B	C	D
0	A0	B0	C0	D0
1	A1	B1	C1	D1
2	A2	B2	C2	D2
3	A3	B3	C3	D3
4	A4	B4	C4	D4
5	A5	B5	C5	D5
6	A6	B6	C6	D6
7	A7	B7	C7	D7
8	A8	B8	C8	D8
9	A9	B9	C9	D9
10	A10	B10	C10	D10
11	A11	B11	C11	D11

In [22]:
```
pd.concat([df1, df2, df3], axis=1)
# with column
```

Out[22]:

	A	B	C	D	A	B	C	D	A	B	C	D
0	A0	B0	C0	D0	A4	B4	C4	D4	A8	B8	C8	D8
1	A1	B1	C1	D1	A5	B5	C5	D5	A9	B9	C9	D9
2	A2	B2	C2	D2	A6	B6	C6	D6	A10	B10	C10	D10
3	A3	B3	C3	D3	A7	B7	C7	D7	A11	B11	C11	D11

In [26]:
```
left = pd.DataFrame({'A':['A0', 'A1', 'A2'],
                     'B':['B0', 'B1', 'B2']},
                    index = ['K0','K1', 'K2'])

right = pd.DataFrame({'C':['C0', 'C1', 'C2'],
                      'D':['D0', 'D1', 'D2']},
                     index = ['K0','K2', 'K3'])
```

In [27]:
```
left.join(right)
```

Out[27]:

	A	B	C	D
K0	A0	B0	C0	D0
K1	A1	B1	NaN	NaN
K2	A2	B2	C1	D1

In [28]:
```
right.join(left)
```

Out[28]:

	C	D	A	B
K0	C0	D0	A0	B0
K2	C1	D1	A2	B2
K3	C2	D2	NaN	NaN