In [66]:

```
#data import

import pandas as pd
df = pd.read_excel(r'C:\Users\dhpur\OneDrive\Desktop\lap sales.xlsx')
df1 = pd.read_csv(r"C:\Users\dhpur\OneDrive\Desktop\lap sales.csv")
df.iloc[:5]
```

Out[66]:

	laptop_ID	Price_euros	Company	TypeName	Inches	Resolution	Screen.Type	Cpu.Vendor
0	2	898.94	Apple	Ultrabook	13.3	HD	Unspecified	Inte
1	3	575.00	HP	Notebook	15.6	FHD	Unspecified	Inte
2	4	2537.45	Apple	Ultrabook	15.4	QHD	IPS	Inte
3	5	1803.60	Apple	Ultrabook	13.3	QHD	IPS	Inte
4	6	400.00	Acer	Notebook	15.6	HD	Unspecified	AMD

```
df.describe()
```

In [68]:

```
df.tail(4)
```

Out[68]:

	laptop_ID	Price_euros	Company	TypeName	Inches	Resolution	Screen.Type	Cpu.Vend
782	1288	638.0	Lenovo	2 in 1 Convertible	14.0	FHD	IPS	Ir
783	1289	1499.0	Lenovo	2 in 1 Convertible	13.3	QHD	IPS	Ir
784	1290	229.0	Lenovo	Notebook	14.0	HD	Unspecified	Ir
785	1291	764.0	HP	Notebook	15.6	HD	Unspecified	Ir

In [3]:

```
dfa = df.append((df1))
dfa.head()
```

```
C:\Users\dhpur\AppData\Local\Temp\ipykernel_12048\1365261672.py:1: FutureW
arning: The frame.append method is deprecated and will be removed from pan
das in a future version. Use pandas.concat instead.
  dfa = df.append((df1))
```

Out[3]:

	laptop_ID	Price_euros	Company	TypeName	Inches	Resolution	Screen.Type	Cpu.Vendor
0	2	898.94	Apple	Ultrabook	13.3	HD	Unspecified	Inte
1	3	575.00	HP	Notebook	15.6	FHD	Unspecified	Inte
2	4	2537.45	Apple	Ultrabook	15.4	QHD	IPS	Inte
3	5	1803.60	Apple	Ultrabook	13.3	QHD	IPS	Inte
4	6	400.00	Acer	Notebook	15.6	HD	Unspecified	AMD

In [4]:

```
dfm=df.merge(df1)
dfm.head(5)
```

Out[4]:

	laptop_ID	Price_euros	Company	TypeName	Inches	Resolution	Screen.Type	Cpu.Vendor
0	2	898.94	Apple	Ultrabook	13.3	HD	Unspecified	Inte
1	3	575.00	HP	Notebook	15.6	FHD	Unspecified	Inte
2	4	2537.45	Apple	Ultrabook	15.4	QHD	IPS	Inte
3	5	1803.60	Apple	Ultrabook	13.3	QHD	IPS	Inte
4	7	2139.97	Apple	Ultrabook	15.4	QHD	IPS	Inte

In [72]:

```
#drop the un-necesory columns
dfdrop = df.drop(columns = ['TypeName','Company'])
dfdrop.head(5)
```

Out[72]:

	laptop_ID	Price_euros	Inches	Resolution	Screen.Type	Cpu.Vendor	Cpu.Series	CpuSpee
0	2	898.94	13.3	HD	Unspecified	Intel	i5	1
1	3	575.00	15.6	FHD	Unspecified	Intel	i5	2
2	4	2537.45	15.4	QHD	IPS	Intel	i7	2
3	5	1803.60	13.3	QHD	IPS	Intel	i5	3
4	6	400.00	15.6	HD	Unspecified	AMD	9420	3

In [6]:

```
#skip the top n rows
df2 = df.iloc[ :-5]
df2.head()
```

Out[6]:

	laptop_ID	Price_euros	Company	TypeName	Inches	Resolution	Screen.Type	Cpu.Vendor
0	2	898.94	Apple	Ultrabook	13.3	HD	Unspecified	Inte
1	3	575.00	HP	Notebook	15.6	FHD	Unspecified	Inte
2	4	2537.45	Apple	Ultrabook	15.4	QHD	IPS	Inte
3	5	1803.60	Apple	Ultrabook	13.3	QHD	IPS	Inte
4	6	400.00	Acer	Notebook	15.6	HD	Unspecified	AMD

In [44]:

```
dfiloctop = df.iloc[:3]
dfiloctop
```

Out[44]:

	laptop_ID	Price_euros	Company	TypeName	Inches	Resolution	Screen.Type	Cpu.Vendor
0	2	898.94	Apple	Ultrabook	13.3	HD	Unspecified	Inte
1	3	575.00	HP	Notebook	15.6	FHD	Unspecified	Inte
2	4	2537.45	Apple	Ultrabook	15.4	QHD	IPS	Inte

In [41]:

```
dfilocbottom = df.iloc[-3:]
dfilocbottom
```

Out[41]:

	laptop_ID	Price_euros	Company	TypeName	Inches	Resolution	Screen.Type	Cpu.Vend
783	1289	1499.0	Lenovo	2 in 1 Convertible	13.3	QHD	IPS	Ir
784	1290	229.0	Lenovo	Notebook	14.0	HD	Unspecified	Ir
785	1291	764.0	HP	Notebook	15.6	HD	Unspecified	Ir

In [73]:

```
#drop the NA rows
fillnulls = df.fillna(0)
nonulls = df.dropna()
fillnulls.head()
```

Out[73]:

	laptop_ID	Price_euros	Company	TypeName	Inches	Resolution	Screen.Type	Cpu.Vendor
0	2	898.94	Apple	Ultrabook	13.3	HD	Unspecified	Inte
1	3	575.00	HP	Notebook	15.6	FHD	Unspecified	Inte
2	4	2537.45	Apple	Ultrabook	15.4	QHD	IPS	Inte
3	5	1803.60	Apple	Ultrabook	13.3	QHD	IPS	Inte
4	6	400.00	Acer	Notebook	15.6	HD	Unspecified	AMD

In [49]:

```
df2['Company'].replace(['HP'],['Hewlett packard Enterprice'])
df2.iloc[:5]
```

Out[49]:

	laptop_ID	Price_euros	Company	TypeName	Inches	Resolution	Screen.Type	Cpu.Vendor
0	2	898.94	Apple	Ultrabook	13.3	HD	Unspecified	Inte
1	3	575.00	HP	Notebook	15.6	FHD	Unspecified	Inte
2	4	2537.45	Apple	Ultrabook	15.4	QHD	IPS	Inte
3	5	1803.60	Apple	Ultrabook	13.3	QHD	IPS	Inte
4	6	400.00	Acer	Notebook	15.6	HD	Unspecified	AMD

In [50]:

```
#select required rows

df2[(df2['Company'] == 'HP')].head()
```

Out[50]:

	laptop_ID	Price_euros	Company	TypeName	Inches	Resolution	Screen.Type	Cpu.Vendo
1	3	575.00	HP	Notebook	15.6	FHD	Unspecified	Int
9	11	393.90	HP	Notebook	15.6	HD	Unspecified	Int
19	25	659.00	HP	Ultrabook	15.6	FHD	Unspecified	Int
23	33	439.00	HP	Notebook	17.3	FHD	Unspecified	AM
29	39	488.69	HP	Notebook	15.6	HD	Unspecified	Int

In [59]:

```
#remove un-necessory rows

df2[df2.Company != 'HP'].iloc[:5]
```

Out[59]:

	laptop_ID	Price_euros	Company	TypeName	Inches	Resolution	Screen.Type	Cpu.Vendor
0	2	898.94	Apple	Ultrabook	13.3	HD	Unspecified	Inte
2	4	2537.45	Apple	Ultrabook	15.4	QHD	IPS	Inte
3	5	1803.60	Apple	Ultrabook	13.3	QHD	IPS	Inte
4	6	400.00	Acer	Notebook	15.6	HD	Unspecified	AMD
5	7	2139.97	Apple	Ultrabook	15.4	QHD	IPS	Inte

In [65]:

```
df2[
    df2.Company == 'HP'
].iloc[:5]
```

Out[65]:

	laptop_ID	Price_euros	Company	TypeName	Inches	Resolution	Screen.Type	Cpu.Vendo
1	3	575.00	HP	Notebook	15.6	FHD	Unspecified	Int
9	11	393.90	HP	Notebook	15.6	HD	Unspecified	Int
19	25	659.00	HP	Ultrabook	15.6	FHD	Unspecified	Int
23	33	439.00	HP	Notebook	17.3	FHD	Unspecified	AM
29	39	488.69	HP	Notebook	15.6	HD	Unspecified	Int

In [12]:

```
df['Rupee']=df['Price_euros']*89
df.head()
```

Out[12]:

	laptop_ID	Price_euros	Company	TypeName	Inches	Resolution	Screen.Type	Cpu.Vendor
0	2	898.94	Apple	Ultrabook	13.3	HD	Unspecified	Inte
1	3	575.00	HP	Notebook	15.6	FHD	Unspecified	Inte
2	4	2537.45	Apple	Ultrabook	15.4	QHD	IPS	Inte
3	5	1803.60	Apple	Ultrabook	13.3	QHD	IPS	Inte
4	6	400.00	Acer	Notebook	15.6	HD	Unspecified	AMD

In [13]:

```
# Transform will use through melt function

df4 = pd.melt(df)
df4.head(100)
```

Out[13]:

	variable	value
0	laptop_ID	2
1	laptop_ID	3
2	laptop_ID	4
3	laptop_ID	5
4	laptop_ID	6
...	...	...
95	laptop_ID	130
96	laptop_ID	134
97	laptop_ID	135
98	laptop_ID	136
99	laptop_ID	137

100 rows × 2 columns

In [14]:

```
tb1 = df.head()
tb2 = df.tail()
tb1
#tb2
```

Out[14]:

	laptop_ID	Price_euros	Company	TypeName	Inches	Resolution	Screen.Type	Cpu.Vendor
0	2	898.94	Apple	Ultrabook	13.3	HD	Unspecified	Inte
1	3	575.00	HP	Notebook	15.6	FHD	Unspecified	Inte
2	4	2537.45	Apple	Ultrabook	15.4	QHD	IPS	Inte
3	5	1803.60	Apple	Ultrabook	13.3	QHD	IPS	Inte
4	6	400.00	Acer	Notebook	15.6	HD	Unspecified	AMD

In [15]:

```
tb2
```

Out[15]:

	laptop_ID	Price_euros	Company	TypeName	Inches	Resolution	Screen.Type	Cpu.Venc
781	1286	209.0	HP	Netbook	11.6	HD	Unspecified	Ir
782	1288	638.0	Lenovo	2 in 1 Convertible	14.0	FHD	IPS	Ir
783	1289	1499.0	Lenovo	2 in 1 Convertible	13.3	QHD	IPS	Ir
784	1290	229.0	Lenovo	Notebook	14.0	HD	Unspecified	Ir
785	1291	764.0	HP	Notebook	15.6	HD	Unspecified	Ir

In [16]:

```
#Append of the Tables
df_append = pd.concat([tb1,tb2])
df_append
```

Out[16]:

	laptop_ID	Price_euros	Company	TypeName	Inches	Resolution	Screen.Type	Cpu.Venc
0	2	898.94	Apple	Ultrabook	13.3	HD	Unspecified	Ir
1	3	575.00	HP	Notebook	15.6	FHD	Unspecified	Ir
2	4	2537.45	Apple	Ultrabook	15.4	QHD	IPS	Ir
3	5	1803.60	Apple	Ultrabook	13.3	QHD	IPS	Ir
4	6	400.00	Acer	Notebook	15.6	HD	Unspecified	AI
781	1286	209.00	HP	Netbook	11.6	HD	Unspecified	Ir
782	1288	638.00	Lenovo	2 in 1 Convertible	14.0	FHD	IPS	Ir
783	1289	1499.00	Lenovo	2 in 1 Convertible	13.3	QHD	IPS	Ir
784	1290	229.00	Lenovo	Notebook	14.0	HD	Unspecified	Ir
785	1291	764.00	HP	Notebook	15.6	HD	Unspecified	Ir

In [17]:

```
import numpy as np
df_pivot = df.pivot(index=None, columns='Company', values='Price_euros')
df_pivot.replace(np.nan, 0)
df_pivot.head()
```

Out[17]:

Company	Acer	Apple	Asus	Dell	Fujitsu	Google	HP	Huawei	LG	Lenovo	MSI	M
0	NaN	898.94	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	
1	NaN	NaN	NaN	NaN	NaN	NaN	575.0	NaN	NaN	NaN	NaN	
2	NaN	2537.45	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	
3	NaN	1803.60	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	
4	400.0	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	

In [18]:

```
import numpy as np

df_pivot = df_pivot.replace(np.nan, 0)
df_pivot.head()
```

Out[18]:

Company	Acer	Apple	Asus	Dell	Fujitsu	Google	HP	Huawei	LG	Lenovo	MSI	Mec
0	0.0	898.94	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
1	0.0	0.00	0.0	0.0	0.0	0.0	575.0	0.0	0.0	0.0	0.0	
2	0.0	2537.45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
3	0.0	1803.60	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
4	400.0	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

In [19]:

```
df.rename(columns = {'Price_euros':'Price'})
#df.rename(columns = {'y':'year'})

df
```

Out[19]:

	laptop_ID	Price_euros	Company	TypeName	Inches	Resolution	Screen.Type	Cpu.Venc
0	2	898.94	Apple	Ultrabook	13.3	HD	Unspecified	Ir
1	3	575.00	HP	Notebook	15.6	FHD	Unspecified	Ir
2	4	2537.45	Apple	Ultrabook	15.4	QHD	IPS	Ir
3	5	1803.60	Apple	Ultrabook	13.3	QHD	IPS	Ir
4	6	400.00	Acer	Notebook	15.6	HD	Unspecified	AI
...	...	...	...	...	...	...	...	
781	1286	209.00	HP	Netbook	11.6	HD	Unspecified	Ir
782	1288	638.00	Lenovo	2 in 1 Convertible	14.0	FHD	IPS	Ir
783	1289	1499.00	Lenovo	2 in 1 Convertible	13.3	QHD	IPS	Ir
784	1290	229.00	Lenovo	Notebook	14.0	HD	Unspecified	Ir
785	1291	764.00	HP	Notebook	15.6	HD	Unspecified	Ir

786 rows × 19 columns

In [20]:

```
df.drop_duplicates()
df
```

Out[20]:

	laptop_ID	Price_euros	Company	TypeName	Inches	Resolution	Screen.Type	Cpu.Venc
0	2	898.94	Apple	Ultrabook	13.3	HD	Unspecified	Ir
1	3	575.00	HP	Notebook	15.6	FHD	Unspecified	Ir
2	4	2537.45	Apple	Ultrabook	15.4	QHD	IPS	Ir
3	5	1803.60	Apple	Ultrabook	13.3	QHD	IPS	Ir
4	6	400.00	Acer	Notebook	15.6	HD	Unspecified	AI
...	...	...	...	...	...	...	...	
781	1286	209.00	HP	Netbook	11.6	HD	Unspecified	Ir
782	1288	638.00	Lenovo	2 in 1 Convertible	14.0	FHD	IPS	Ir
783	1289	1499.00	Lenovo	2 in 1 Convertible	13.3	QHD	IPS	Ir
784	1290	229.00	Lenovo	Notebook	14.0	HD	Unspecified	Ir
785	1291	764.00	HP	Notebook	15.6	HD	Unspecified	Ir

786 rows × 19 columns

In [21]:

```
#MAX
df.nlargest(10,'Price_euros')
```

Out[21]:

	laptop_ID	Price_euros	Company	TypeName	Inches	Resolution	Screen.Type	Cpu.Venc
136	200	6099.00	Razer	Gaming	17.3	UHD	Unspecified	Ir
515	839	5499.00	Razer	Gaming	17.3	UHD	Unspecified	Ir
754	1249	3499.00	Razer	Gaming	14.0	FHD	Unspecified	Ir
659	1096	3240.00	Lenovo	Gaming	17.3	FHD	IPS	Ir
587	969	3154.00	Dell	Gaming	17.3	UHD	IPS	Ir
412	667	3147.37	Dell	Gaming	17.3	UHD	IPS	Ir
524	851	3072.89	Dell	Gaming	17.3	FHD	IPS	Ir
331	537	3012.77	Dell	Gaming	17.3	FHD	IPS	Ir
348	570	2999.00	Lenovo	Notebook	17.3	FHD	IPS	Ir
322	524	2968.00	Asus	Gaming	15.6	FHD	Unspecified	Ir

In [22]:

```
#MIN
df.nsmallest(10,'Price_euros')
```

Out[22]:

	laptop_ID	Price_euros	Company	TypeName	Inches	Resolution	Screen.Type	Cpu.Venc
742	1233	174.0	Acer	Netbook	11.6	HD	Unspecified	Ir
16	21	191.9	Asus	Netbook	11.6	HD	Unspecified	Ir
680	1135	196.0	Vero	Notebook	13.3	FHD	Unspecified	Ir
190	295	199.0	Acer	Notebook	15.6	HD	Unspecified	Ir
497	800	202.9	Vero	Notebook	14.0	FHD	Unspecified	Ir
672	1117	209.0	Acer	Notebook	15.6	HD	Unspecified	Ir
781	1286	209.0	HP	Netbook	11.6	HD	Unspecified	Ir
633	1055	210.8	Vero	Notebook	14.0	HD	Unspecified	Ir
345	562	224.0	Asus	Notebook	15.6	HD	Unspecified	Ir
48	69	229.0	HP	Notebook	14.0	HD	Unspecified	Ir

In [23]:

```
df.iat[1,3]
df
```

Out[23]:

	laptop_ID	Price_euros	Company	TypeName	Inches	Resolution	Screen.Type	Cpu.Venc
0	2	898.94	Apple	Ultrabook	13.3	HD	Unspecified	Ir
1	3	575.00	HP	Notebook	15.6	FHD	Unspecified	Ir
2	4	2537.45	Apple	Ultrabook	15.4	QHD	IPS	Ir
3	5	1803.60	Apple	Ultrabook	13.3	QHD	IPS	Ir
4	6	400.00	Acer	Notebook	15.6	HD	Unspecified	AI
...	...	...	...	...	...	...	...	
781	1286	209.00	HP	Netbook	11.6	HD	Unspecified	Ir
782	1288	638.00	Lenovo	2 in 1 Convertible	14.0	FHD	IPS	Ir
783	1289	1499.00	Lenovo	2 in 1 Convertible	13.3	QHD	IPS	Ir
784	1290	229.00	Lenovo	Notebook	14.0	HD	Unspecified	Ir
785	1291	764.00	HP	Notebook	15.6	HD	Unspecified	Ir

786 rows × 19 columns

In [ ]:

```
```

In [67]:

```
df.to_excel("C:\\Users\\dhpur\\OneDrive\\Desktop\\output.xlsx")
```

In [85]:

```
dfloc = df.loc[0:,['Price_euros']]
dfloc
```

Out[85]:

	Price_euros
0	898.94
1	575.00
2	1537.00
3	1803.60
4	400.00
...	...
782	638.00
783	1499.00
784	229.00
785	764.00
Price_euros	575.00

787 rows × 1 columns

In [98]:

```
data = {
    "SNO":[1,2,3,4,5],
    "SNAME":['ABC','BCD','CDE','DEF','EFG']
}

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

Out[98]:

	SNO	SNAME
0	1	ABC
1	2	BCD
2	3	CDE
3	4	DEF
4	5	EFG

In [ ]:

```
```