Data Science – Pandas DataFrame – Adding, dropping cols/rows

19. Pandas – DataFrame - Adding, dropping columns & rows

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19. Pandas – DataFrame - Adding, dropping columns & rows

1. Adding column to DataFrame

✓ Based on requirement we can add column to existing DataFrame

Program Name Input file	Creating DataFrame demo1.py sales8.csv
	import pandas as pd
	df = pd.read_csv("sales8.csv")
	print(df.head(5))
Output	
	Order Id Customer name Customer Id Product name Product cost Quantity 0 192837 Veeru 3 LG Mobile 65999 1 1 192838 Neelima 19 Apple iPad 10.2-inch 63000 2 2 192839 Balaji 12 34in Ultrawide Monitor 75999 1 3 192840 Shahid 20 iPhone 11 60000 2 4 192841 Vinay 10 Bose SoundSport Headphones 69999 3

Program Adding Status column to DataFrame

Name demo6.py Input file sales8.csv

import pandas as pd

df = pd.read_csv("sales8.csv")

df['Status'] = "Delivered"
print(df.head())

Output

	Order Id	Customer name	Customer Id	Product name	Product cost	Quantity	Status
0	192837	Veeru	3	LG Mobile	65999	1	Delivered
1	192838	Neelima	19	Apple iPad 10.2-inch	63000	2	Delivered
2	192839	Balaji	12	34in Ultrawide Monitor	75999	1	Delivered
3	192840	Shahid	20	iPhone 11	60000	2	Delivered
4	192841	Vinay	10	Bose SoundSport Headphones	69999	3	Delivered

Program Adding Total cost column to DataFrame

Name demo2.py Input file sales8.csv

import pandas as pd

df = pd.read_csv("sales8.csv")

df["Total Cost"] = df['Product cost']*df['Quantity']

print(df.head(5))

Output

ı	Order Id	Customer name	Customer Id	Product name	Product cost	Quantity	Total Cost
6	192837	Veeru	3	LG Mobile	65999	1	65999
1	192838	Neelima	19	Apple iPad 10.2-inch	63000	2	126000
2	192839	Balaji	12	34in Ultrawide Monitor	75999	1	75999
3	192840	Shahid	20	iPhone 11	60000	2	120000
4	192841	Vinay	10	Bose SoundSport Headphones	69999	3	209997

```
Adding Total cost column to DataFrame by using apply method
Program
             demo3.py
Name
Input file
             sales8.csv
             import pandas as pd
             df = pd.read_csv('sales8.csv')
             def total(df):
                    t = df['Product cost'] * df['Quantity']
                    return t
             df['Total cost'] = df.apply(total, axis = 1)
             print(df.head())
Output
                                                                  65999
                                              Apple iPad 10.2-inch
                                                                  63000
                           Shahid
                                       10 Bose SoundSport Headphones
                            Vinay
```

```
Program
Name
Input file

Adding total cost column to DataFrame in a specific position
demo5.py
Input file

import pandas as pd

df = pd.read_csv("sales8.csv")

print(df.head())

new = df['Product cost'] * df['Quantity']
df.insert(5,"Total Cost", new)

print()
print(df.head(5))

Output

Order Id Customer name Customer Id

Product name Product cost Quantity
```

```
192837
                                                          LG Mobile
                                                                              65999
                Veeru
                                              Apple iPad 10.2-inch
                                                                               63000
192838
192839
                                            34in Ultrawide Monitor
192840
                Shahid
                                   20
                                                          iPhone 11
                                                                               60000
                                   10 Bose SoundSport Headphones
                                                                              69999
192841
                 Vinay
rder Id Customer name Customer Id
                                                                                      Total Cost Quantity
                                              LG Mobile
Apple iPad 10.2-inch
                                                                              65999
63000
192837
              Veeru
Neelima
                                                                                           65999
126000
192838
                                           34in Ultrawide Monitor
iPhone 11
192839
                Balaji
                                                                               75999
                                                                                            75999
192840
                Shahid
                                                                                           120000
                                   10 Bose SoundSport Headphones
192841
                 Vinay
                                                                               69999
                                                                                           209997
```

2. Dropping columns from DataFrame

✓ Based on requirement we can drop column from existing DataFrame

```
Dropping single columns
Program
               demo7.py
Name
Input file
               sales8.csv
               import pandas as pd
               df1 = pd.read csv("sales8.csv")
               df2 = df1.drop(columns = 'Customer name')
               print(df1.head())
               print()
               print(df2.head())
Output
                   Order Id Customer name
                    192837
                                 Veeru
                                                                 LG Mobile
                                                                                 65999
                    192838
                                               19
                                                        Apple iPad 10.2-inch
                                                                                 63000
                    192839
                                Balaji
                                                      34in Ultrawide Monitor
                                                                                 75999
                    192840
                                                                 iPhone 11
                                                                                 60000
                    192841
                                                  Bose SoundSport Headphones
                                 Vinay
                  Order Id Customer Id
                                                   Product name Product cost
                    192837
                                                     LG Mobile
                                                                     65999
                                   19
                                            Apple iPad 10.2-inch
                                                                     63000
                    192838
                    192839
                                          34in Ultrawide Monitor
                                                                     75999
                                                     iPhone 11
                    192840
                                   20
                                                                     60000
                                   10 Bose SoundSport Headphones
                    192841
                                                                     69999
```

```
Program
               Dropping multiple columns
               demo8.py
Name
Input file
               sales8.csv
               import pandas as pd
               df1 = pd.read_csv("sales8.csv")
               df2 = df1.drop(['Customer name', 'Product name'], axis = 1)
               print(df1.head())
               print()
               print(df2.head())
Output
                                                                LG Mobile
                   192837
                                Veeru
                                                                               65999
                                                      Apple iPad 10.2-inch
                   192838
                              Neelima
                                                                               63000
                   192839
                                                     34in Ultrawide Monitor
                               Balaji
                                                                               75999
                                                                iPhone 11
                   192840
                               Shahid
                                              20
                                                                               60000
                                              10 Bose SoundSport Headphones
                   192841
                                Vinay
                 Order Id Customer Id Product cost
                                                 Quantity
                   192837
                                           65999
                   192838
                                  19
                                           63000
                   192839
                                           75999
                                  12
                   192840
                                           60000
                                  10
                   192841
                                           69999
```

3. Dropping rows from DataFrame

✓ We can drop the rows from DataFrame by using drop method

```
Dropping single row
Program
                demo9.py
Name
Input file
                sales8.csv
                import pandas as pd
                df1 = pd.read csv("sales8.csv")
                df2 = df1.drop(3, axis = 0)
                print(df1.head())
                print()
                print(df2.head())
Output
                   Order Id Customer name
                                  Veeru
                     192837
                                                                   LG Mobile
                                                                                    65999
                                                          Apple iPad 10.2-inch
                     192838
                                Neelima
                                                                                    63000
                     192839
                                 Balaji
                                                        34in Ultrawide Monitor
                                                                                    75999
                     192840
                                 Shahid
                                                 20
                                                                    iPhone 11
                                                                                    60000
                    192841
                                                10 Bose SoundSport Headphones
                                                                                    69999
                                  Vinay
                   Order Id Customer name Customer Id
                                                                 Product name
                                                                             Product cost
                                                                                          Quantity
                                  Veeru
                                                                   LG Mobile
                    192837
                                                                                    65999
                                                         Apple iPad 10.2-inch
                                                19
                     192838
                                Neelima
                                                                                    63000
                                                        34in Ultrawide Monitor
                     192839
                                 Balaji
                                                                                    75999
                                                 10 Bose SoundSport Headphones
                     192841
                                  Vinay
                                                                                    69999
                     192842
                                  Vinay
                                                                 20in Monitor
                                                                                    65999
```

Program Dropping multiple rows

Name demo10.py Input file sales8.csv

import pandas as pd

df1 = pd.read_csv("sales8.csv") df2 = df1.drop([1, 2], axis = 0)

print(df1.head())

print()

print(df2.head())

Output

	Order Id	Customer name	Customer Id	Product name	Product cost	Quantity
0	192837	Veeru	3	LG Mobile	65999	1
1	192838	Neelima	19	Apple iPad 10.2-inch	63000	2
2	192839	Balaji	12	34in Ultrawide Monitor	75999	1
3	192840	Shahid	20	iPhone 11	60000	2
4	192841	Vinay	10	Bose SoundSport Headphones	69999	3
	Order Id	Customer name	Customer Id	Product name	Product cost	Quantity
0	Order Id 192837	Customer name Veeru	Customer Id 3	Product name LG Mobile	Product cost 65999	Quantity 1
ø 3						Quantity 1 2
	192837	Veeru	3	LG Mobile	65999	Quantity 1 2 3
3	192837 192840	Veeru Shahid	3 20	LG Mobile iPhone 11	65999 60000	Quantity 1 2 3 2
3	192837 192840 192841	Veeru Shahid Vinay	3 20 10	LG Mobile iPhone 11 Bose SoundSport Headphones	65999 60000 69999	Quantity 1 2 3 2 3