Name : Rajvardhan Kishor Patil
Roll No. : 844 Sub : EDS
Batch : H2
PRN No. : 202201040123

1) Which was the best month for sales? How much was earned that month?

Input :

```
import pandas as pd
df=pd.read_csv("grainsales.csv")
bms=df.groupby("Months")["Sales"].sum().idxmax()
bmsal=df.groupby("Months")["Sales"].sum().max()
print("The best Month of the Sales is",bms,"sales amount is",bmsal)
```

Output :
The best Month of the Sales is JULY sales amount is 16000000.

2) Which product sold the most?

Input :

```
mps=df.groupby("GrainName")["Sales"].sum().idxmax()
print(mps)
```

Output : Wheat

3) Which city sold the most products?

Input :

```
cps=df.groupby("City")["Sales"].sum().idxmax()
print(cps)
```

Output : Asansole

4) Find the product which are sold in 2022.

Input:

```
import pandas as pd
df=pd.read_csv("grainsales.csv")
print(df[df['Year']==2022])
```

Output :

	GrainName	State	City	Months	Year	Sales
1	Bajra	Panjab	Amritsar	FEB	2022	1500000

7 Sattu Gujarat Surat APRIL 2022 2500000
13 Bajra Panjab Amritsar FEB 2022 1500000
21 Brown rice Telangana Hyderabad JUNE 2022 3500000
25 Brown rice Telangana Hyderabad JUNE 2022 3500000

5) Find the product which are sold in 2023.

Input:

```
import pandas as pd
df=pd.read_csv("grainsales.csv")
print(df[df['Year']==2023])
```

Output :

	GrainName	State	City	Months	Year	Sales
0	Ragi	Maharashtra	Nagpur	JAN	2023	1000000
2	Ragi	Maharashtra	Nagpur	JAN	2023	1000000
3	Bajra	Panjab	Amritsar	FEB	2023	1500000
4	Ragi	Maharashtra	Nagpur	JAN	2023	1000000
5	Bajra	Panjab	Amritsar	FEB	2023	1500000
6	Oats	Hariyana	Gurugram	MARCH	2023	2000000
8	Sooji	Tamil Nadu	Madurai	MAY	2023	3000000
9	Brown rice	Telangana	Hyderabad	JUNE	2023	3500000
10	Wheat	West Bengol	Asansole	JULY	2023	4000000
11	Corn	UP	Kanpur	AUG	2023	4500000
12	Ragi	Maharashtra	Nagpur	JAN	2023	1000000
14	Oats	Hariyana	Gurugram	MARCH	2023	2000000
15	Sattu	Gujarat	Surat	APRIL	2023	2500000
16	Sooji	Tamil Nadu	Madurai	MAY	2023	3000000
17	Brown rice	Telangana	Hyderabad	JUNE	2023	3500000
18	Wheat	West Bengol	Asansole	JULY	2023	4000000
19	Corn	UP	Kanpur	AUG	2023	4500000
20	Sooji	Tamil Nadu	Madurai	MAY	2023	3000000
22	Wheat	West Bengol	Asansole	JULY	2023	4000000
23	Corn	UP	Kanpur	AUG	2023	4500000
24	Ragi	Maharashtra	Nagpur	JAN	2023	1000000
26	Wheat	West Bengol	Asansole	JULY	2023	4000000

6) Find the product which are sold in 2023 and state is Maharashtra.

Input :

```
import pandas as pd
df=pd.read_csv("grainsales.csv")
print(df[(df['Year']==2023) & (df['State']=='Maharashtra')])
```

Output :

	GrainName	State	City	Months	Year	Sales
0	Ragi	Maharashtra	Nagpur	JAN	2023	1000000
2	Ragi	Maharashtra	Nagpur	JAN	2023	1000000
4	Ragi	Maharashtra	Nagpur	JAN	2023	1000000
12	Ragi	Maharashtra	Nagpur	JAN	2023	1000000

24 Ragi Maharashtra Nagpur JAN 2023 1000000

7) Find the product which are sold in 2022 and state is Maharashtra.

Input :

```
import pandas as pd
df=pd.read_csv("grainsales.csv")
print(df[(df['Year']==2022) & (df['State']=='Maharashtra')])
```

Output :

```
Empty DataFrame
Columns: [GrainName, State, City, Months, Year, Sales]
Index: []
```

8) Find the product which are sold state is Gujarat.

Input :

```
import pandas as pd
df=pd.read_csv("grainsales.csv")
print(df[df['State']=='Gujarat'])
```

Output :

```
   GrainName    State   City Months  Year    Sales
7     Sattu   Gujarat  Surat  APRIL  2022  2500000
15    Sattu   Gujarat  Surat  APRIL  2023  2500000
```

9) Find the product which are sold inn year 2022 and state is Gujarat.

Input :

```
import pandas as pd
df=pd.read_csv("grainsales.csv")
print(df[(df['Year']==2022) & (df['State']=='Gujarat')])
```

Output :

```
  GrainName    State   City Months  Year    Sales
7    Sattu   Gujarat  Surat  APRIL  2022  2500000
```

10) Total sales of ragi.

Input :

```
import pandas as pd
df=pd.read_csv("grainsales.csv")
```

```
r1=df.groupby('GrainName')['Sales'].get_group('Ragi').sum()
print('Total sales of ragi:',r1)
```

Output :

Total sales of ragi:5000000

11) Which state sales the ragi most?

Input :

```
import pandas as pd
df=pd.read_csv("grainsales.csv")
r1=df.groupby('GrainName')['State'].get_group('Ragi').sum()
print('State which sales ragi most:',r1)
```

Output :

State which sales ragi most: Maharashtra

12) Sales of corn in year 2023.

Input :

```
import pandas as pd
df=pd.read_csv("grainsales.csv")
print(df[(df['GrainName']=='Corn') & (df['Year']==2023)])
```

Output:

	GrainName	State	City	Months	Year	Sales
11	Corn	UP	Kanpur	AUG	2023	4500000
19	Corn	UP	Kanpur	AUG	2023	4500000
23	Corn	UP	Kanpur	AUG	2023	4500000

13) Total sales in year 2022.

Input :

```
import pandas as pd
df=pd.read_csv("grainsales.csv")
r1=df.groupby('Year')['Sales'].get_group(2022).sum()
print(r1)
```

Output :

12500000

14) Total sales of corn.

Input :

```
import pandas as pd
df=pd.read_csv("grainsales.csv")
r1=df.groupby('GrainName')['Sales'].get_group('Corn').sum()
print('Total sales of corn:',r1)
```

Output :

Total sales of corn: 13500000

15) Total sales in JAN.

Input :

```
import pandas as pd
df=pd.read_csv("grainsales.csv")
r1=df.groupby('Months')['Sales'].get_group('JAN').sum()
print('Total sales in JAN:',r1)
```

Output :

Total sales in JAN: 5000000

16) Total sales of Bajra.

Input :

```
import pandas as pd
df=pd.read_csv("grainsales.csv")
r1=df.groupby('GrainName')['Sales'].get_group('Bajra').max()
print('Total sales of Bajra:',r1)
```

Output :

Total sales of Bajra: 1500000

17) Grain which sale in april.

Input :

```
import pandas as pd
df=pd.read_csv("grainsales.csv")
r1=df.groupby('Months')['GrainName'].get_group('APRIL')
print(r1)
```

Output :

```
7     Sattu
15    Sattu
```

18) The product sold in city madurai.

Input :

```
import pandas as pd
df=pd.read_csv("grainsales.csv")
print(df[df['City']=='Madurai'])
```

Output :

```
   GrainName       State     City Months  Year    Sales
8      Sooji  Tamil Nadu  Madurai    MAY  2023  3000000
16     Sooji  Tamil Nadu  Madurai    MAY  2023  3000000
20     Sooji  Tamil Nadu  Madurai    MAY  2023  3000000
```

19) Grain which sale in AUG.

Input :

```
import pandas as pd
df=pd.read_csv("grainsales.csv")
r1=df.groupby('Months')['GrainName'].get_group('AUG')
print(r1)
```

Output :

```
11    Corn
19    Corn
23    Corn
```

20) Grain which sale in JUNE.

Input :

```
import pandas as pd
df=pd.read_csv("grainsales.csv")
r1=df.groupby('Months')['GrainName'].get_group('JUNE')
print(r1)
```

Output :

```
9     Brown rice
17    Brown rice
21    Brown rice
25    Brown rice
```