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PRACTICAL NO 4

Problem Statement:

Implement all 20 grains using Pandas methods. The Sample Grains for the Sales Dataset are as:

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

Which product sold the most? Why do you think it did?

Which city sold the most products?

What Products are most often sold together?

#CODE:

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

	GrainName	State	City	Months	Year	Sales
0	Ragi	Maharashtra	Nagpur	JAN	2023	1000000
1	Bajra	Panjab	Amritsar	FEB	2023	1500000
2	Ragi	Maharashtra	Nagpur	JAN	2020	1000000
3	Bajra	Panjab	Amritsar	FEB	2023	1500000
4	Ragi	Maharashtra	Nagpur	JAN	2022	1000000

5 Bajra Panjab Amritsar FEB 2022 1500000
6 Oats Hariyana Gurugram MARCH 2023 2000000
7 Sattu Gujarat Surat APRIL 2023 2500000
8 Sooji Tamil Nadu Madurai MAY 2023 3000000
9 Brown rice Telangana Hyderabad JUNE 2023 3500000
10 Wheat West Bengal Asansole JULY 2022 4000000
11 Corn UP Kanpur AUG 2023 4500000
12 Ragi Maharashtra Nagpur JAN 2023 1000000
13 Bajra Panjab Amritsar FEB 2022 1500000
14 Oats Hariyana Gurugram MARCH 2023 2000000
15 Sattu Gujarat Surat APRIL 2023 2500000
16 Sooji Tamil Nadu Madurai MAY 2022 3000000
17 Brown rice Telangana Hyderabad JUNE 2023 3500000
18 Wheat West Bengal Asansole JULY 2023 4000000
19 Corn UP Kanpur AUG 2023 4500000
20 Sooji Tamil Nadu Madurai MAY 2022 3000000
21 Brown rice Telangana Hyderabad JUNE 2023 3500000
22 Wheat West Bengal Asansole JULY 2023 4000000
23 Corn UP Kanpur AUG 2023 4500000
24 Ragi Maharashtra Nagpur JAN 2022 1000000
25 Brown rice Telangana Hyderabad JUNE 2023 3500000
26 Wheat West Bengal Asansole JULY 2019 4000000

#Best MOnth for the Sale

```

import pandas as pd
df=pd.read_csv('grainsales (1).csv')
mm=df.groupby('Months')['Sales'].sum().idxmax()
tm=df.groupby('Months')['Sales'].sum().max()
print("The best month for the sale is:",mm)
print("Total earning of ",mm,"is:",tm)

```

The best month for the sale is: JULY

Total earning of JULY is: 16000000

#Product which sold most

```

psm=df.GrainName.value_counts()
print("The product which sold most is:",psm)
print("Because total sales of it is: ",psm['Ragi'])

```

The product which sold most is: Ragi 5

Bajra 4

Brown rice 4

Wheat 4

Sooji 3

Corn 3

Oats 2

Sattu 2

Name: GrainName, dtype: int64

Because total sales of it is: 5

City which sold the most products

```
cmp = df['City'].value_counts().idxmax()
```

```
cmn = df['City'].value_counts().max()
```

```
print("The city which sold the most product is:",cmp)
```

```
print("Number:",cmn)
```

The city which sold the most product is: NagpurNumber:

5

What products are most often sold together?

```
pc = df.groupby('Year')['GrainName'].unique().reset_index()
```

```
print("Products most often sold together:")
```

```
print(pc)
```

Products most often sold together:

	Year	GrainName
0	2019	[Wheat]
1	2020	[Ragi]

2 2022 [Ragi, Bajra, Wheat, Sooji]

3 2023 [Ragi, Bajra, Oats, Sattu , Sooji, Brown rice ...