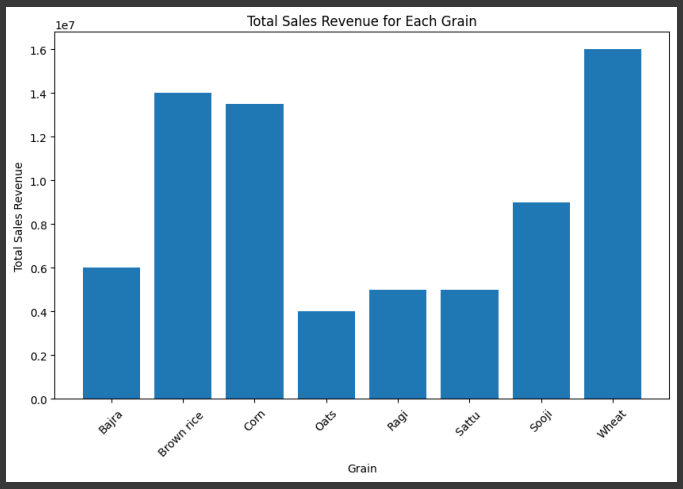
Nikita Shelar

Roll NO = 557

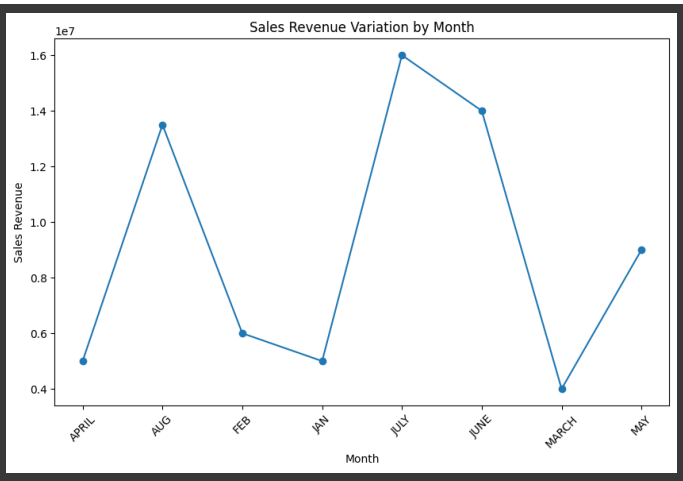
Assignment no 5

```
import pandas as pd
# Read the CSV file
data = pd.read_csv('grainsales.csv')
```

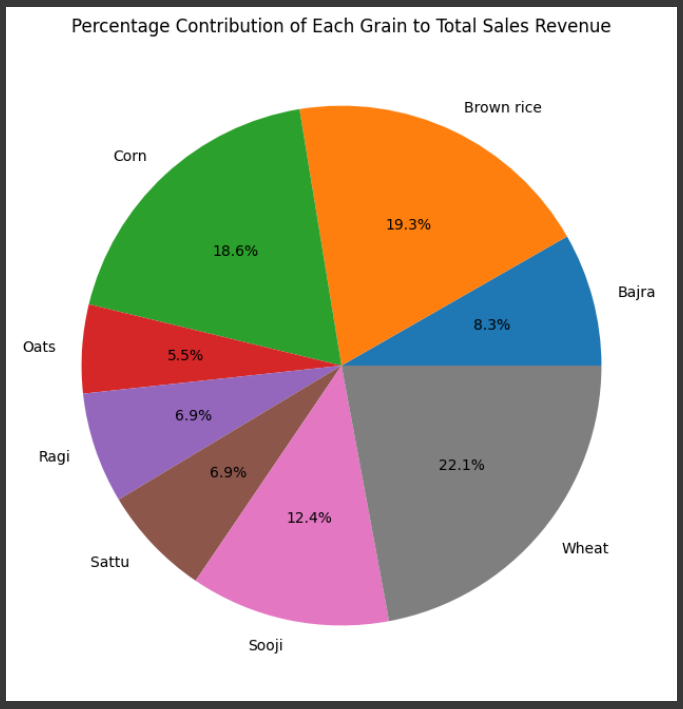
```
import matplotlib.pyplot as plt

total_sales_grain = data.groupby('GrainName')['Sales'].sum()

plt.figure(figsize=(10, 6))
plt.bar(total_sales_grain.index, total_sales_grain.values)
plt.xlabel('Grain')
plt.ylabel('Total Sales Revenue')
plt.title('Total Sales Revenue for Each Grain')
plt.xticks(rotation=45)
plt.show()
```



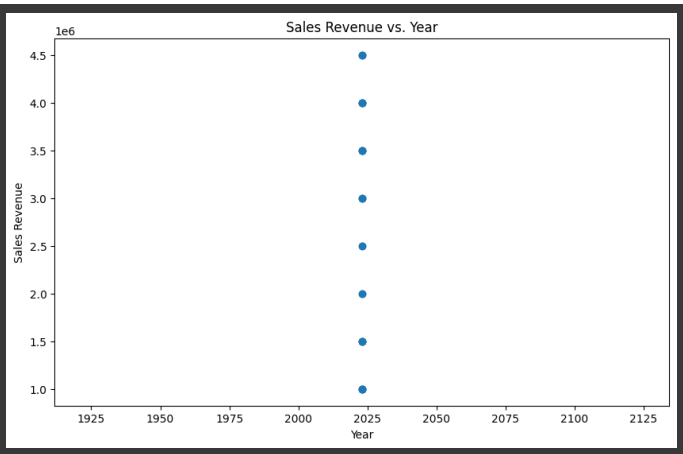

```
monthly_sales = data.groupby('Months')['Sales'].sum()

plt.figure(figsize=(10, 6))
plt.plot(monthly_sales.index, monthly_sales.values, marker='o')
plt.xlabel('Month')
plt.ylabel('Sales Revenue')
plt.title('Sales Revenue Variation by Month')
plt.xticks(rotation=45)
plt.show()
```




```
percentage_contribution = (data.groupby('GrainName')['Sales'].sum() / data['Sales'].sum()) * 100

plt.figure(figsize=(8, 8))
plt.pie(percentage_contribution.values, labels=percentage_contribution.index, autopct='%1.1f%%')
plt.title('Percentage Contribution of Each Grain to Total Sales Revenue')
plt.show()
```

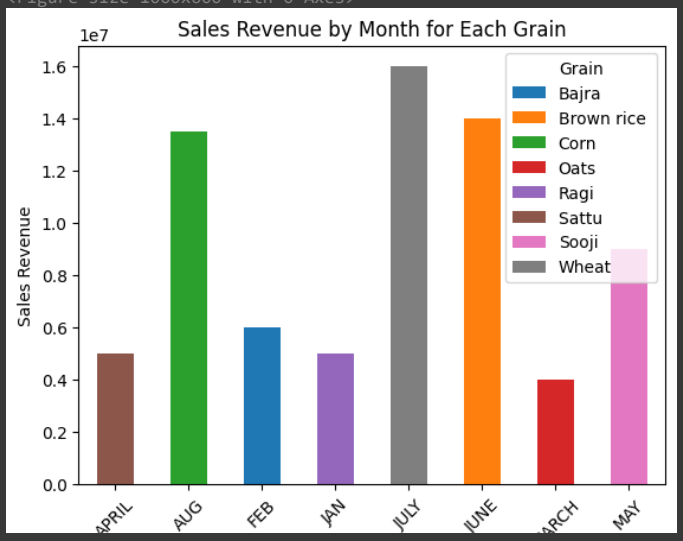



```
plt.figure(figsize=(10, 6))
plt.scatter(data['Year'], data['Sales'])
plt.xlabel('Year')
plt.ylabel('Sales Revenue')
plt.title('Sales Revenue vs. Year')
plt.show()
```



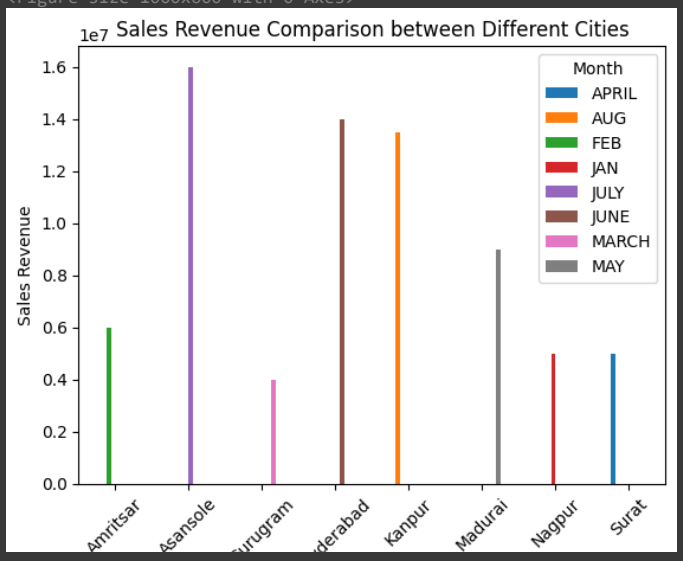

```
sales_by_month_grain = data.groupby(['Months', 'GrainName'])['Sales'].sum().unstack()

plt.figure(figsize=(10, 6))
sales_by_month_grain.plot(kind='bar', stacked=True)
plt.xlabel('Month')
plt.ylabel('Sales Revenue')
plt.title('Sales Revenue by Month for Each Grain')
plt.xticks(rotation=45)
plt.legend(title='Grain')
plt.show()
```

```
<Figure size 1000x600 with 0 Axes>
```

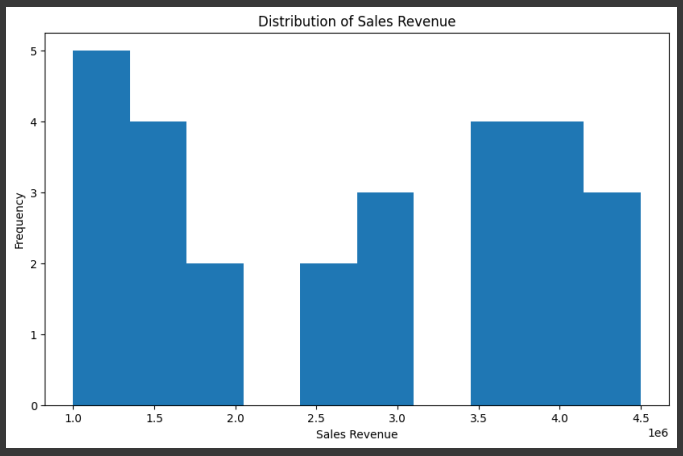



```
sales_by_city = data.groupby(['City', 'Months'])['Sales'].sum().unstack()

plt.figure(figsize=(10, 6))
sales_by_city.plot(kind='bar')
plt.xlabel('City')
plt.ylabel('Sales Revenue')
plt.title('Sales Revenue Comparison between Different Cities')
plt.xticks(rotation=45)
plt.legend(title='Month')
plt.show()
```

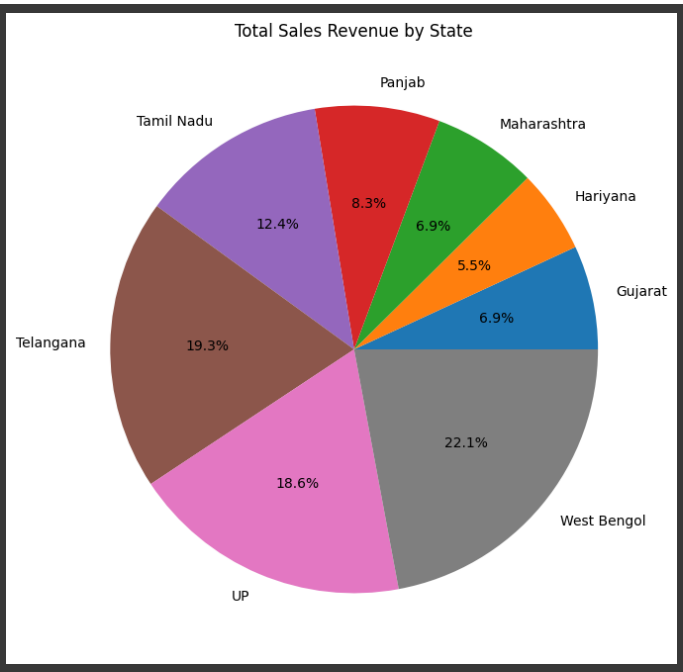
```
<Figure size 1000x600 with 0 Axes>
```



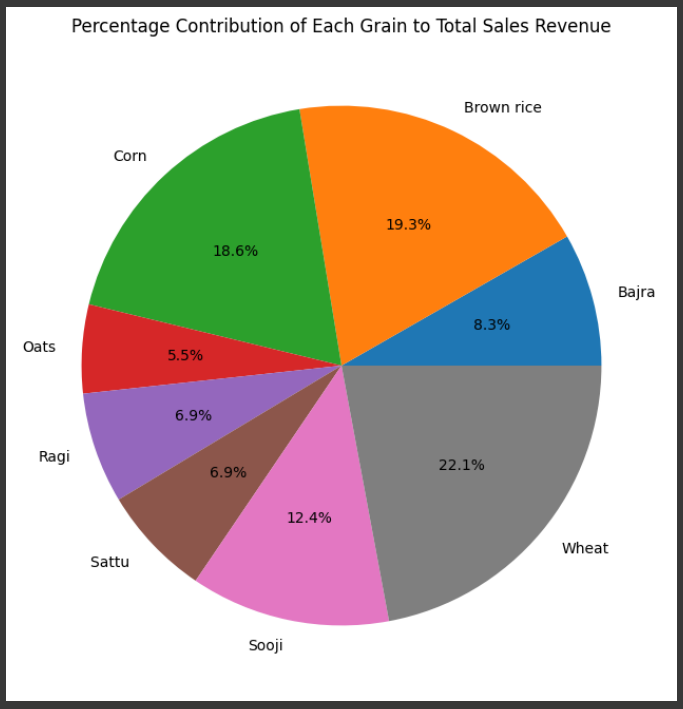

```
plt.figure(figsize=(10, 6))
plt.hist(data['Sales'], bins=10)
plt.xlabel('Sales Revenue')
plt.ylabel('Frequency')
plt.title('Distribution of Sales Revenue')
plt.show()
```




```
total_sales_state = data.groupby('State')['Sales'].sum()

plt.figure(figsize=(8, 8))
plt.pie(total_sales_state.values, labels=total_sales_state.index, autopct='%1.1f%%')
plt.title('Total Sales Revenue by State')
plt.show()
```

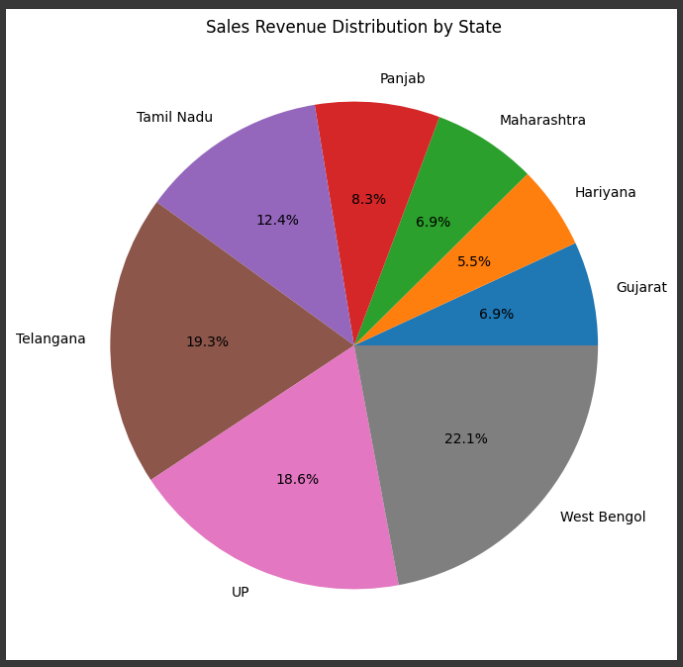



```
percentage_contribution = (data.groupby('GrainName')['Sales'].sum() / data['Sales'].sum()) * 100

plt.figure(figsize=(8, 8))
plt.pie(percentage_contribution.values, labels=percentage_contribution.index, autopct='%1.1f%%')
plt.title('Percentage Contribution of Each Grain to Total Sales Revenue')
plt.show()
```




```
sales_by_state = data.groupby('State')['Sales'].sum()

plt.figure(figsize=(8, 8))
plt.pie(sales_by_state.values, labels=sales_by_state.index, autopct='%1.1f%%')
plt.title('Sales Revenue Distribution by State')
```

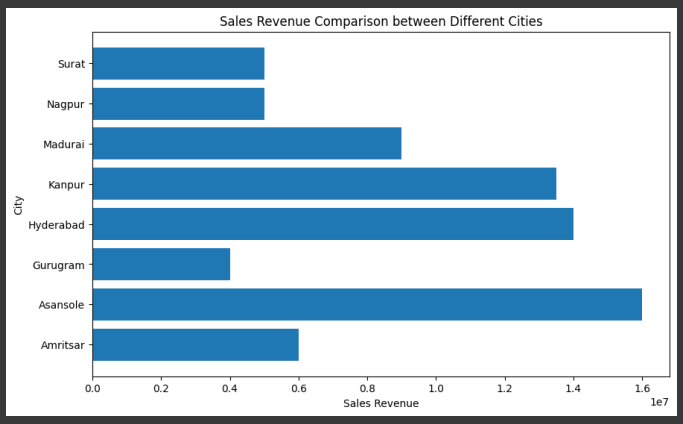
```
plt.show()
```



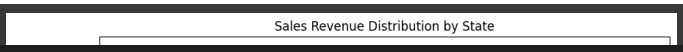

```
sales_by_month = data.groupby('Months')['Sales'].sum()

plt.figure(figsize=(8, 8))
plt.pie(sales_by_month.values, labels=sales_by_month.index, autopct='%1.1f%%')
plt.title('Sales Revenue Distribution by Month')
plt.show()
```

Sales Revenue Distribution by Month

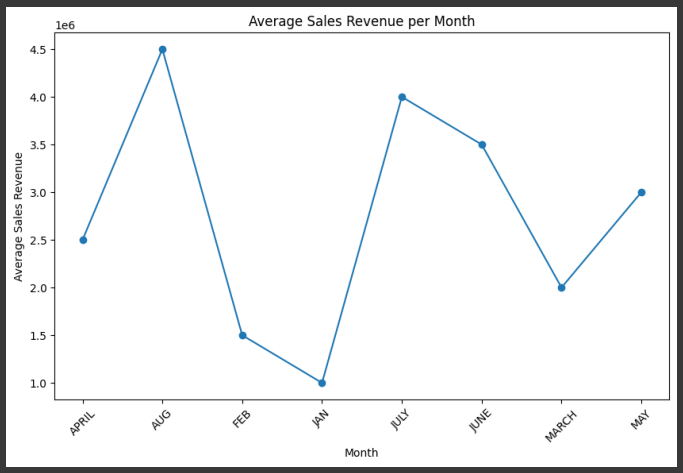
```
sales_by_city = data.groupby('City')['Sales'].sum()

plt.figure(figsize=(10, 6))
plt.barh(sales_by_city.index, sales_by_city.values)
plt.xlabel('Sales Revenue')
plt.ylabel('City')
plt.title('Sales Revenue Comparison between Different Cities')
plt.show()
```



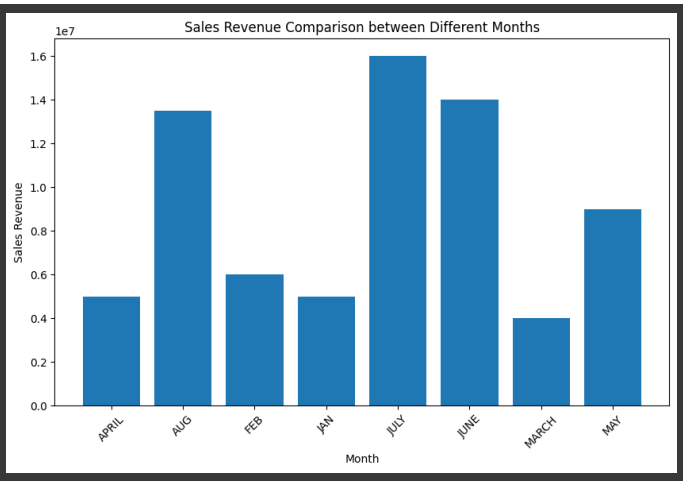

```
sales_by_state = data.groupby('State')['Sales'].sum()

plt.figure(figsize=(10, 6))
plt.barh(sales_by_state.index, sales_by_state.values)
plt.xlabel('Sales Revenue')
plt.ylabel('State')
plt.title('Sales Revenue Distribution by State')
plt.show()
```




```
average_sales_month = data.groupby('Months')['Sales'].mean()

plt.figure(figsize=(10, 6))
plt.plot(average_sales_month.index, average_sales_month.values, marker='o')
plt.xlabel('Month')
plt.ylabel('Average Sales Revenue')
plt.title('Average Sales Revenue per Month')
plt.xticks(rotation=45)
plt.show()
```




```
sales_by_month = data.groupby('Months')['Sales'].sum()

plt.figure(figsize=(10, 6))
plt.bar(sales_by_month.index, sales_by_month.values)
plt.xlabel('Month')
plt.ylabel('Sales Revenue')
plt.title('Sales Revenue Comparison between Different Months')
plt.xticks(rotation=45)
plt.show()
```


Sales Revenue Comparison between Different Months
1e7
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Sales Revenue
APRIL
AUG
FEB
JAN
JULY
JUNE
MARCH
MAY
Month