MATPLOTLIB AND SEABORN

˅ DATA VISUALIZATION

```
import pandas as pd
```

```
df_sales= pd.read_excel("/linechart.xlsx")
df_sales.head()
```

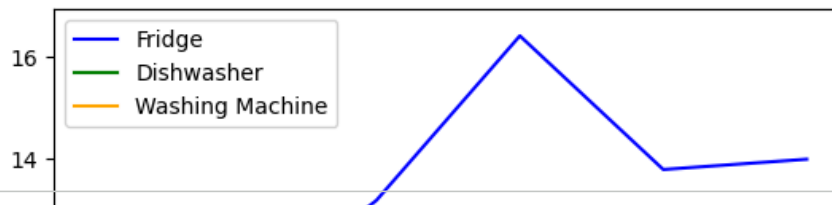|	Quarter	Fridge	Dishwasher	Washing Machine	⊞
0	Q1 2022	12.5	8.0	9.2	
1	Q2 2022	11.0	7.5	8.5	
2	Q3 2022	13.2	9.0	7.5	
3	Q4 2022	16.4	11.0	7.6	
4	Q1 2023	13.8	9.5	6.8	

Next steps: Generate code with `df_sales`   New interactive sheet

```
from matplotlib import pyplot as plt
plt.figure(figsize=(12, 4))
```

```
<Figure size 1200x400 with 0 Axes>
<Figure size 1200x400 with 0 Axes>
```

```
plt.plot(df_sales["Quarter"], df_sales["Fridge"], color="blue", label="Fridge")
plt.plot(df_sales["Quarter"], df_sales["Dishwasher"], color="green", label= "Dishwasher")
plt.plot(df_sales["Quarter"], df_sales["Washing Machine"], color="orange", label= "Washing Machine")

plt.title("Product Sales")
plt.ylabel("Revenue(mln $)")
plt.xlabel("Financial Quarter")

plt.legend()
plt.show()
```
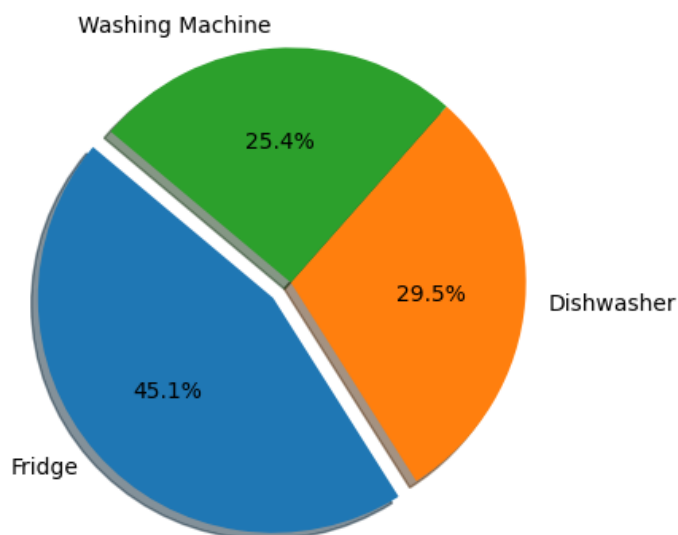
Product Sales


```
total_sales = df_sales[["Fridge", "Dishwasher", "Washing Machine"]].sum()
total_sales
```

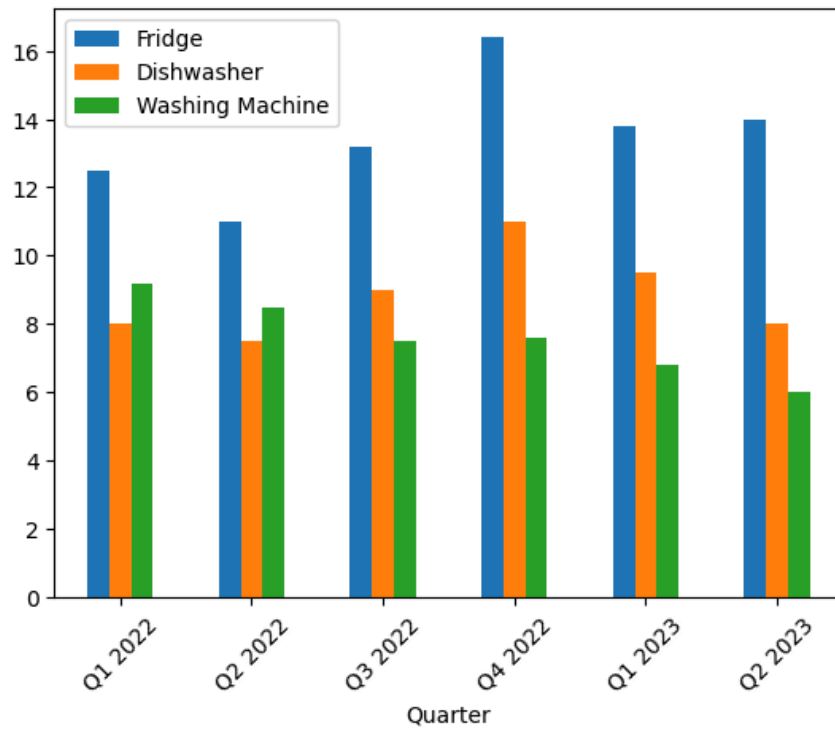| Fridge | 80.9 |
| Dishwasher | 53.0 |
| Washing Machine | 45.6 |

dtype: float64
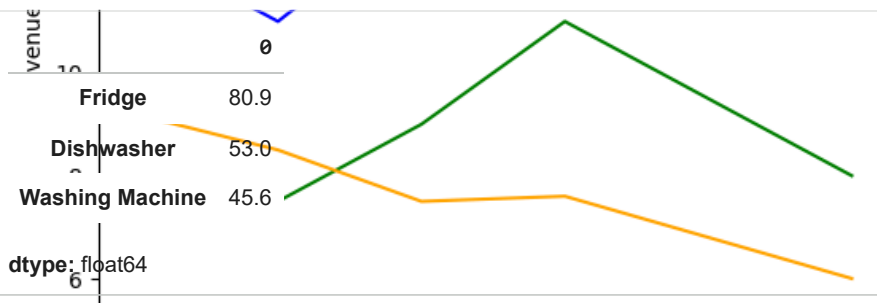
```
total_sales.index
```

```
Index(['Fridge', 'Dishwasher', 'Washing Machine'], dtype='object')
```

```
plt.pie(
    total_sales,
    labels=total_sales.index,
    autopct="%1.1f%%",
    explode=(0.1, 0, 0),
    shadow=True,
    startangle=140
)

plt.show()
```



```
df_sales.plot(kind="bar", x="Quarter")
plt.xticks(rotation=45)
plt.show()
```

```
df_sales.head()
```

	Quarter	Fridge	Dishwasher	Washing Machine
0	Q1 2022	12.5	8.0	9.2
1	Q2 2022	11.0	7.5	8.5
2	Q3 2022	13.2	9.0	7.5
3	Q4 2022	16.4	11.0	7.6
4	Q1 2023	13.8	9.5	6.8

Next steps: (Generate code with df_sales)   (New interactive sheet)

```
df_sales_2 = df_sales.set_index("Quarter")
df_sales_2
```

Quarter	Fridge	Dishwasher	Washing Machine
Q1 2022	12.5	8.0	9.2
Q2 2022	11.0	7.5	8.5
Q3 2022	13.2	9.0	7.5
Q4 2022	16.4	11.0	7.6
Q1 2023	13.8	9.5	6.8
Q2 2023	14.0	8.0	6.0

Next steps: (Generate code with df_sales_2)   (New interactive sheet)

```
df_sales_2.loc["Q1 2022"]
```

	Q1 2022
Fridge	12.5
Dishwasher	8.0
Washing Machine	9.2

dtype: float64

```
df_sales_2.plot(kind="bar")
plt.xticks(rotation=45)
plt.show()
```
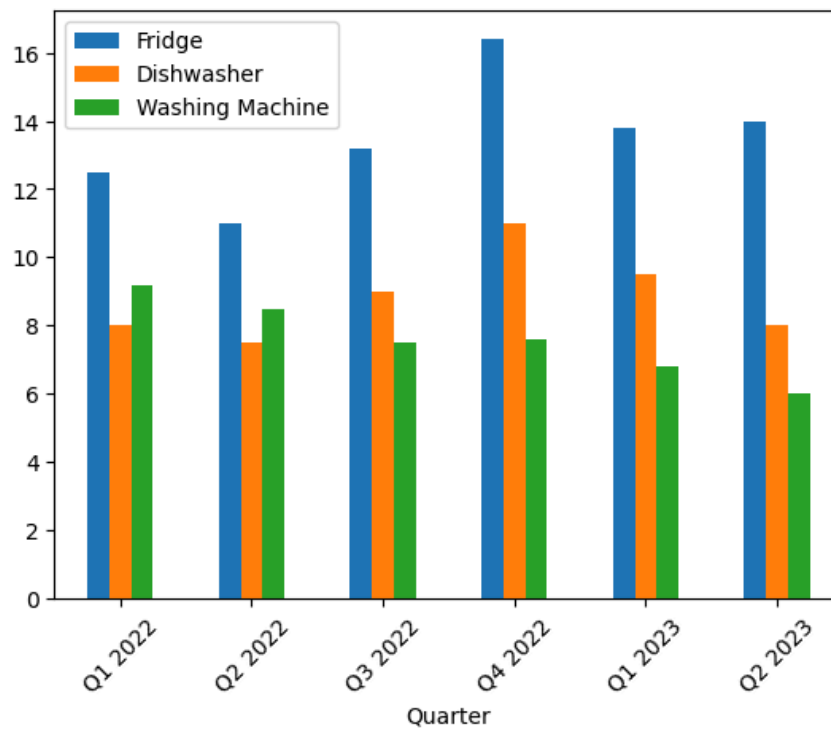


```
df_score= pd.read_excel("/histograms.xlsx")
df_score.head(3)
```

	Name	Exam_Score
0	Aarav	45
1	Michael	71
2	Bilal	59

Next steps: (Generate code with `df_score`)   (New interactive sheet)

```
import seaborn as sns


sns.histplot(data=df_score, x= "Exam_Score", kde= True)
plt.xlabel("Score")
plt.ylabel("Count")
plt.title("Exam Scores")
plt.show()
```

Exam Scores
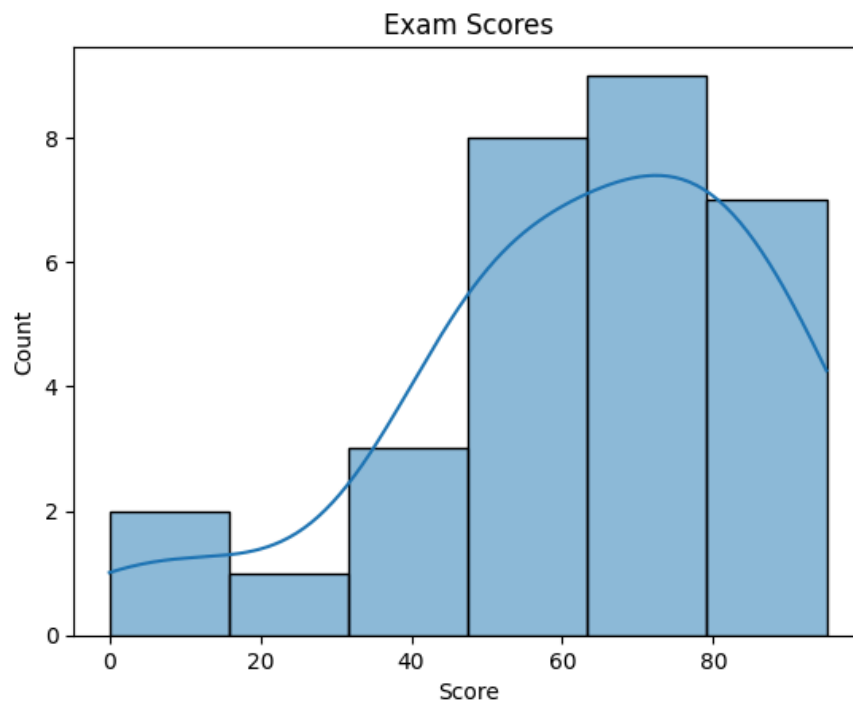
```python
df= pd.read_excel("/scatter_plot.xlsx")
df
```
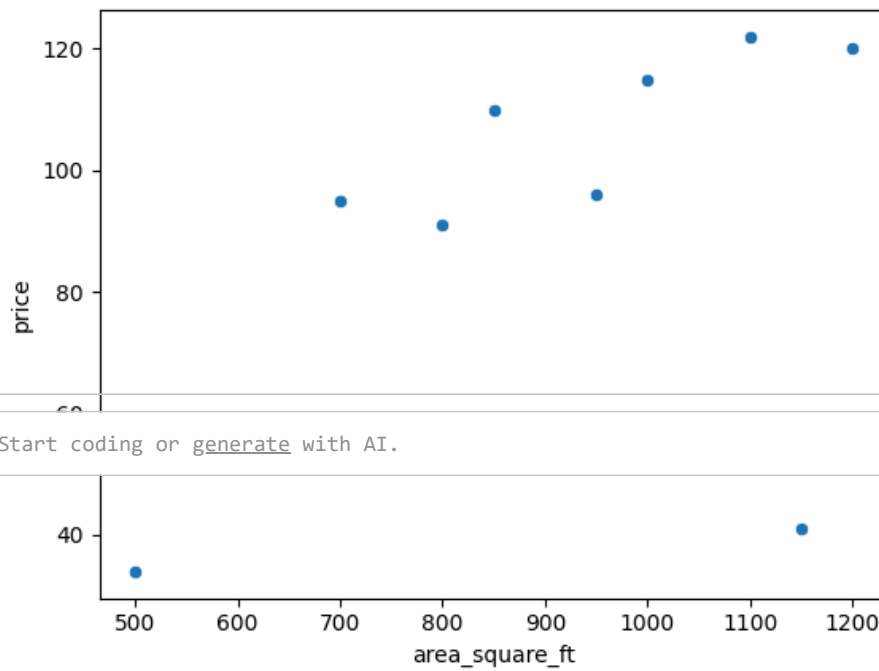
	area_square_ft	price
0	650	55
1	800	91
2	950	96
3	1100	122
4	500	34
5	1200	120
6	700	95
7	850	110
8	1000	115
9	1150	41

Next steps: (Generate code with df)   (New interactive sheet)

```python
sns.scatterplot(data=df, x="area_square_ft", y="price")
plt
```

Start coding or generate with AI.