

#2.a

```
import pandas as pd
```

```
data = {  
    'Product': ['Laptop', 'Headphones', 'Monitor', 'Keyboard', 'Mouse'],  
    'Sales': [1200, 300, 450, 150, 100, 1300, 500, 90],  
    'Date': ['2024-01-01', '2024-01-03', '2024-01-05', '2024-01-07', '2024-01-09', '2024-01-11', '2024-01-13', '2024-01-15']  
}
```

```
df = pd.DataFrame(data)  
df['Date'] = pd.to_datetime(df['Date'])  
df
```

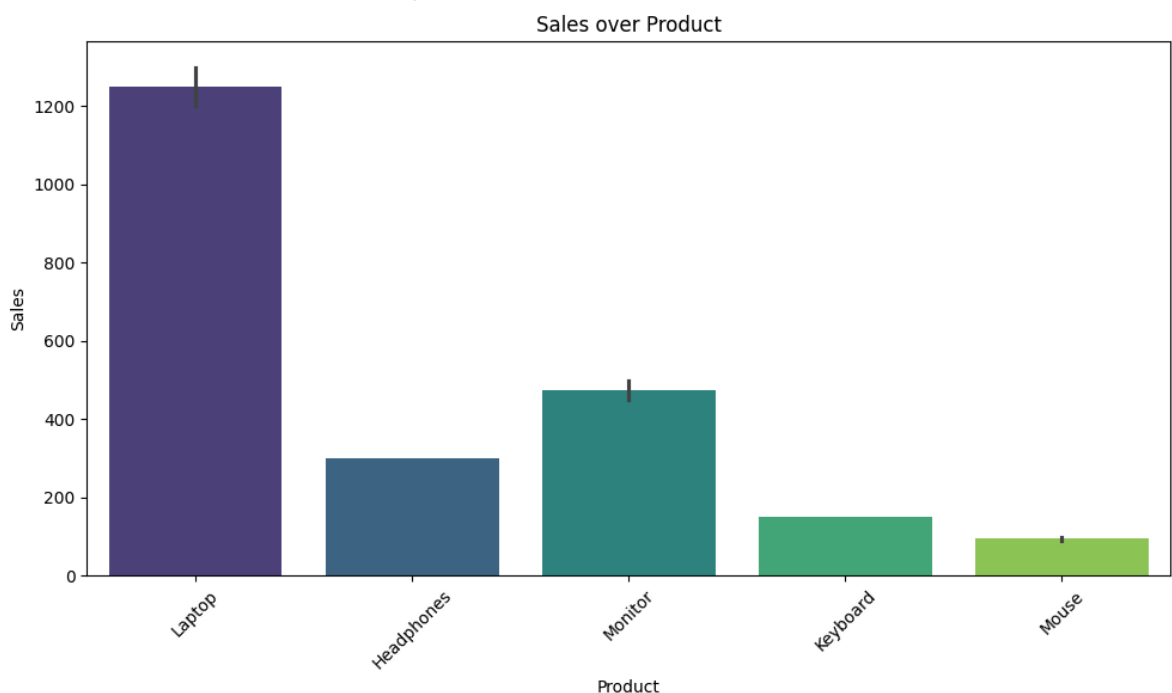
```
import matplotlib.pyplot as plt  
import seaborn as sns
```

```
plt.figure(figsize=(10,6))  
sns.barplot(x='Product', y='Sales', data=df, palette='viridis')  
plt.title('Sales over Product')  
plt.xlabel('Product')  
plt.ylabel('Sales')  
plt.xticks(rotation=45)  
plt.tight_layout()  
plt.show()
```

/tmp/ipython-input-338642133.py:19: FutureWarning:

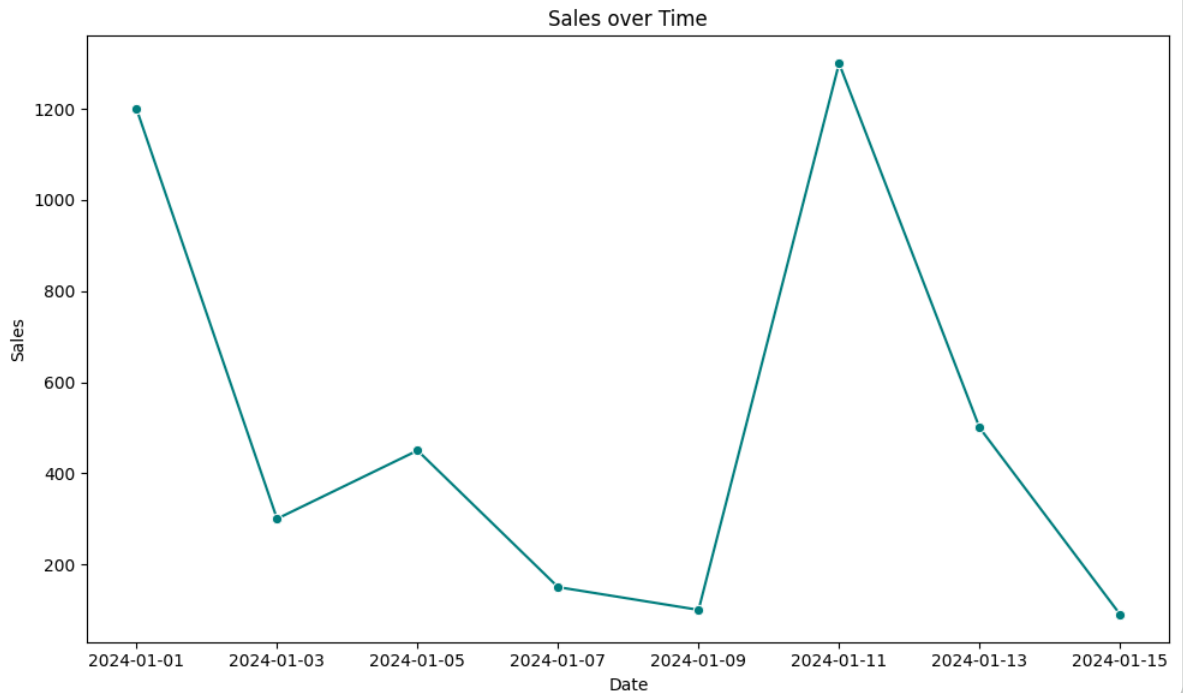
Passing `palette` without assigning `hue` is deprecated and will be removed in a future version. Use `color` or `colorbar` instead.

```
sns.barplot(x='Product', y='Sales', data=df, palette='viridis')
```



#2.b

```
plt.figure(figsize=(10,6))
sns.lineplot(x='Date', y='Sales', data=df, marker='o', color='teal')
plt.title('Sales over Time')
plt.xlabel('Date')
plt.ylabel('Sales')
plt.tight_layout()
plt.show()
```



#2.c

```
plt.figure(figsize=(8,6))
sns.heatmap(df.corr(numeric_only=True), annot=True, cmap='coolwarm', fm
plt.title('Correlation Matrix')
plt.show()
```

