Task 4 – Data Visualization

Topics Covered

1. Matplotlib
   - Basic plots: line, bar, scatter, histogram.
2. Seaborn
   - Advanced plots: heatmaps, pairplots, boxplots.

Program 1

```
import matplotlib.pyplot as plt

x = [1, 2, 3, 4, 5]
y = [10, 20, 25, 30, 40]

plt.plot(x, y, marker='o')
plt.title("Line Plot")
plt.xlabel("X-axis")
plt.ylabel("Y-axis")
plt.show()
```

Program 2

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

data = sns.load_dataset("iris")
sns.pairplot(data, hue="species")
plt.show()

sns.heatmap(data.corr(), annot=True, cmap="coolwarm")
plt.show()
```

🌟 Key Takeaways

- Learned to use Matplotlib for basic plots.
- Understood Seaborn for advanced visualization.
- Visualization helps identify patterns and relationships.
- Week 4 improved my ability to present data effectively.