EDA - lab7.ipynb

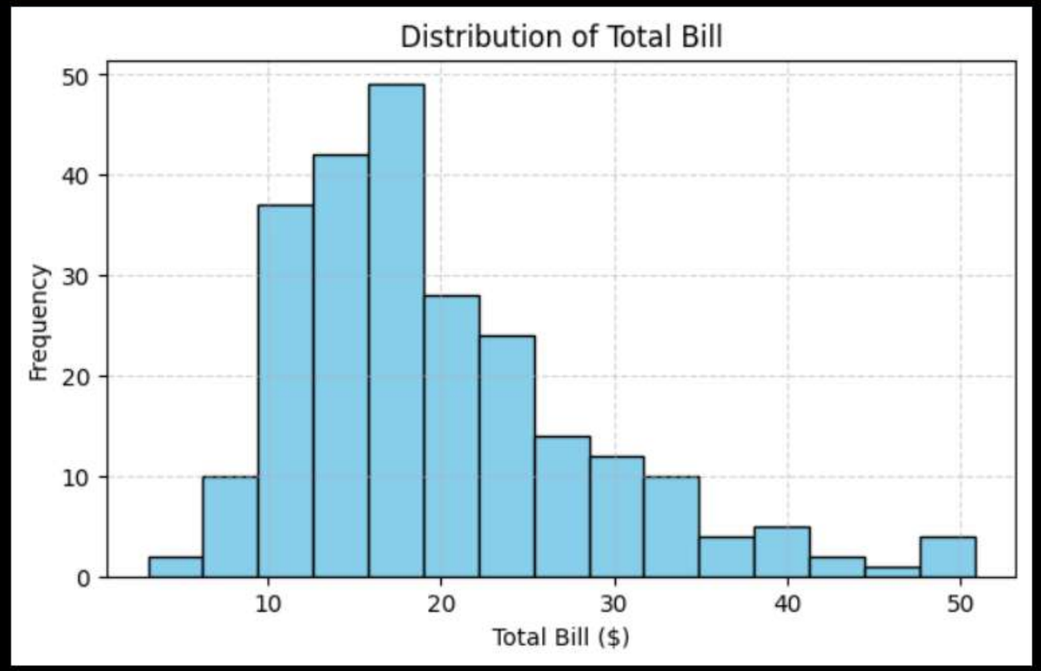
Lab5.py U | Lab6.py U | Lab7.py U | lab7.ipynb U

python > Lab Experiments > Lab 7 > lab7.ipynb > # Histogram - Total Bill

+ Code + Markdown | Run All | Restart | Clear All Outputs | venv (Python 3.12.10)

```python
# Histogram - Total Bill
plt.figure(figsize=(7, 4))
plt.hist(df["total_bill"], bins=15, color="skyblue", edgecolor="black")
plt.title("Distribution of Total Bill")
plt.xlabel("Total Bill ($)")
plt.ylabel("Frequency")
plt.grid(True, linestyle="--", alpha=0.5)
plt.show()
```

[12] ✓ 0.1s Python



EDA - lab7.ipynb

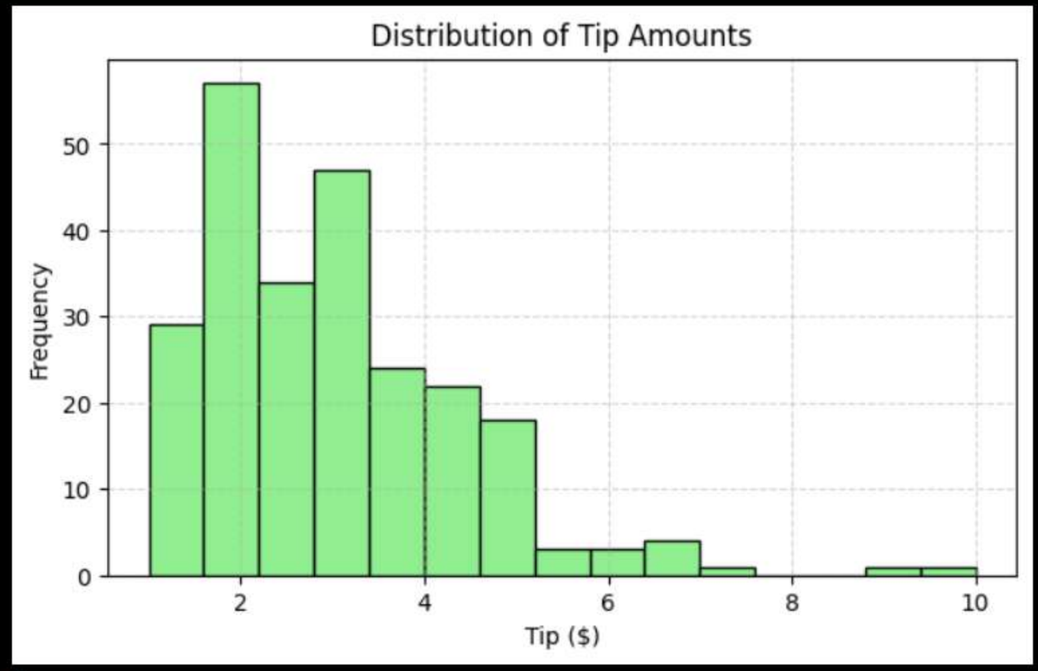
lab7.ipynb U

python > Lab Experiments > Lab 7 > lab7.ipynb > # Histogram - Total Bill

+ Code + Markdown | Run All | Restart | Clear All Outputs | venv (Python 3.12.10)

```python
# Histogram - Tip
plt.figure(figsize=(7, 4))
plt.hist(df["tip"], bins=15, color="lightgreen", edgecolor="black")
plt.title("Distribution of Tip Amounts")
plt.xlabel("Tip ($)")
plt.ylabel("Frequency")
plt.grid(True, linestyle="--", alpha=0.5)
plt.show()
```

[5] ✓ 0.0s Python



30°C Mostly sunny | Search | ENG IN | 11:57 12-11-2025

EDA - lab7.ipynb

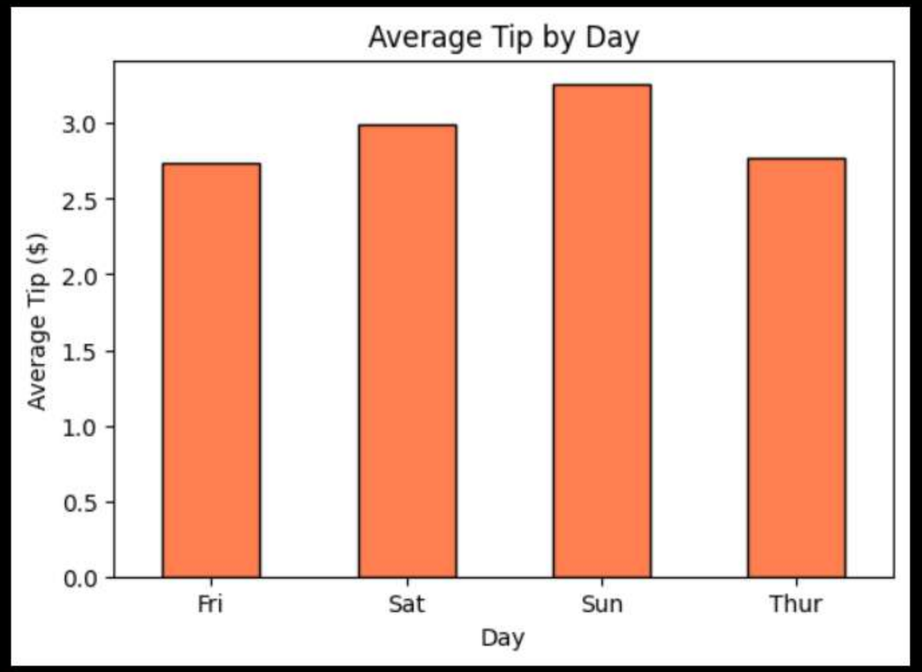
Lab5.py U | Lab6.py U | Lab7.py U | lab7.ipynb U

python > Lab Experiments > Lab 7 > lab7.ipynb > # Histogram - Total Bill

+ Code + Markdown | Run All | Restart | Clear All Outputs | venv (Python 3.12.10)

```python
# Bar chart - Average Tip per Day
avg_tip_day = df.groupby("day")["tip"].mean()
plt.figure(figsize=(6, 4))
avg_tip_day.plot(kind="bar", color="coral", edgecolor="black")
plt.title("Average Tip by Day")
plt.xlabel("Day")
plt.ylabel("Average Tip ($)")
plt.xticks(rotation=0)
plt.show()
```

[6] ✓ 0.1s Python



EDA - lab7.ipynb

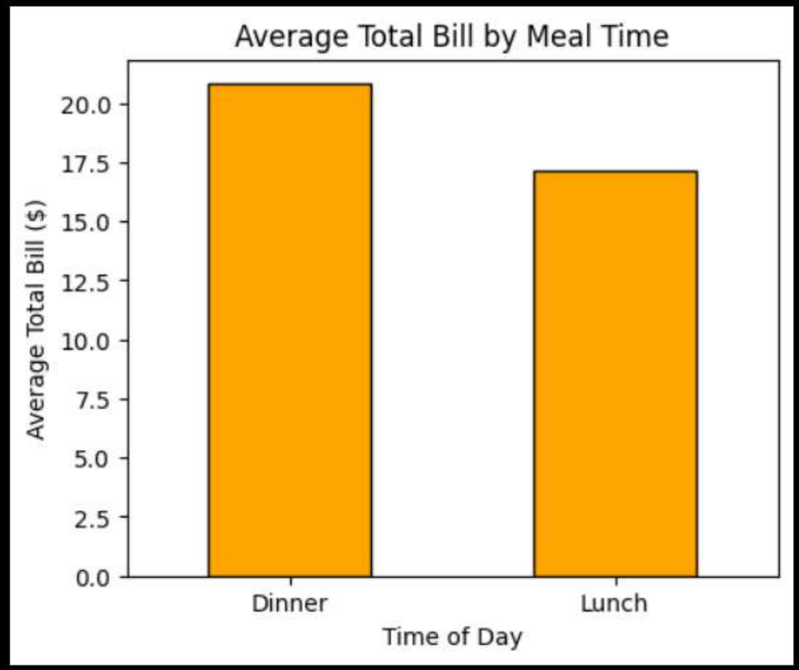
lab7.ipynb U

python > Lab Experiments > Lab 7 > lab7.ipynb > # Histogram - Total Bill

+ Code + Markdown | Run All | Restart | Clear All Outputs | venv (Python 3.12.10)

```python
# Bar chart - Average Total Bill by Meal Time
avg_bill_time = df.groupby("time")["total_bill"].mean()
plt.figure(figsize=(5, 4))
avg_bill_time.plot(kind="bar", color="orange", edgecolor="black")
plt.title("Average Total Bill by Meal Time")
plt.xlabel("Time of Day")
plt.ylabel("Average Total Bill ($)")
plt.xticks(rotation=0)
plt.show()
```

[7] ✓ 0.0s Python



30°C Mostly sunny

Search

ENG IN

11:58 12-11-2025

EDA - lab7.ipynb

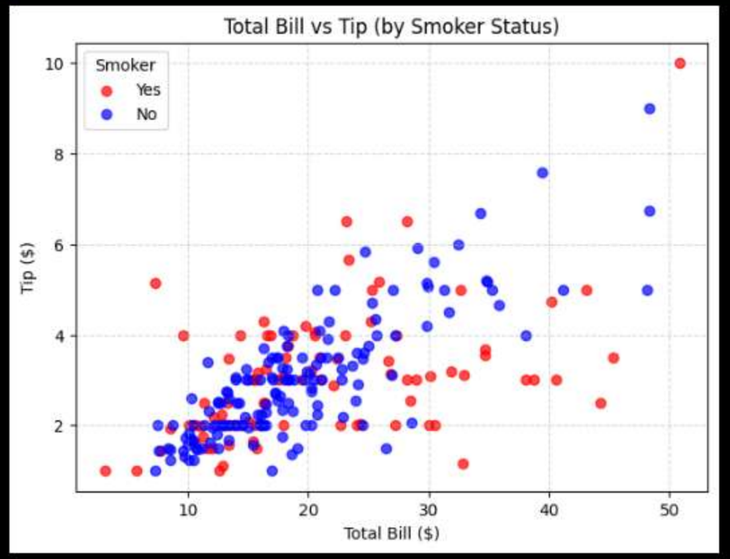
Lab2.py U | Lab3.py U | Lab4.py U | Lab5.py U | Lab6.py U | Lab7.py U | lab7.ipynb U

python > Lab Experiments > Lab 7 > lab7.ipynb > # Scatter Plot - Total Bill vs Tip with Smoker Color Coding

+ Code | + Markdown | Run All | Restart | Clear All Outputs | Jupyter Variables | Outline | venv (Python 3.12.10)

```python
# Scatter Plot - Total Bill vs Tip with Smoker Color Coding
plt.figure(figsize=(7, 5))
colors = {"Yes": "red", "No": "blue"}
for smoker_status, color in colors.items():
    subset = df[df["smoker"] == smoker_status]
    plt.scatter(
        subset["total_bill"],
        subset["tip"],
        color=color,
        label=smoker_status,
        alpha=0.7,
    )
plt.title("Total Bill vs Tip (by Smoker Status)")
plt.xlabel("Total Bill ($)")
plt.ylabel("Tip ($)")
plt.legend(title="Smoker")
plt.grid(True, linestyle="--", alpha=0.5)
plt.show()
```

[8] ✓ 0.1s Python



EDA - lab7.ipynb

lab7.ipynb U

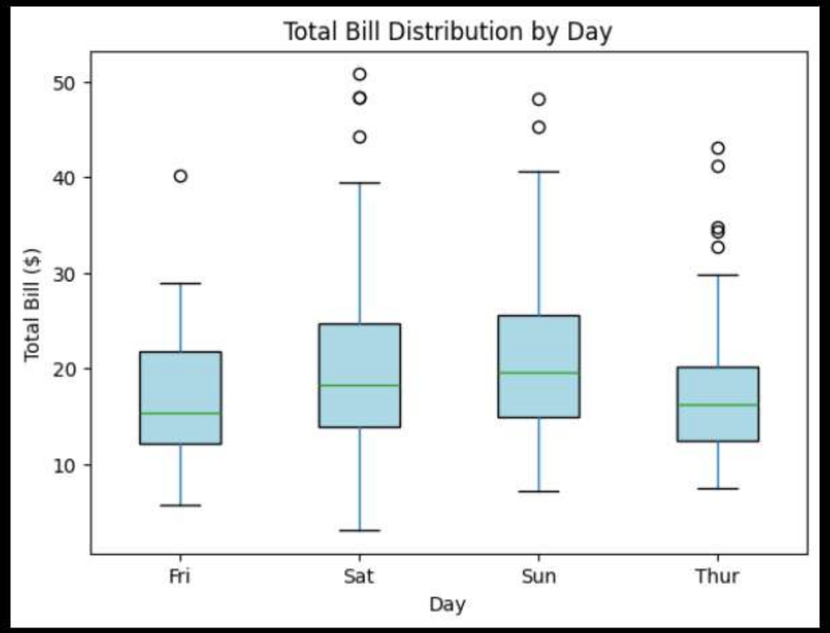
python > Lab Experiments > Lab 7 > lab7.ipynb > # Boxplot - Total Bill by Day

+ Code | + Markdown | Run All | Restart | Clear All Outputs | Jupyter Variables | Outline | venv (Python 3.12.10)

```python
# Boxplot - Total Bill by Day
plt.figure(figsize=(7, 5))
df.boxplot(
    column="total_bill",
    by="day",
    grid=False,
    patch_artist=True,
    boxprops=dict(facecolor="lightblue"),
)
plt.title("Total Bill Distribution by Day")
plt.suptitle("")
plt.xlabel("Day")
plt.ylabel("Total Bill ($)")
plt.show()
```

[9] ✓ 0.0s Python

```
<Figure size 700x500 with 0 Axes>
```



30°C Mostly sunny | Search | ENG IN | 11:58 12-11-2025

File Edit Selection View Go Run Terminal Help

EDA - lab7.ipynb

Explorer

Lab1.py U | Lab2.py U | Lab3.py U | Lab4.py U | Lab5.py U | Lab6.py U | Lab7.py U | lab7.ipynb U

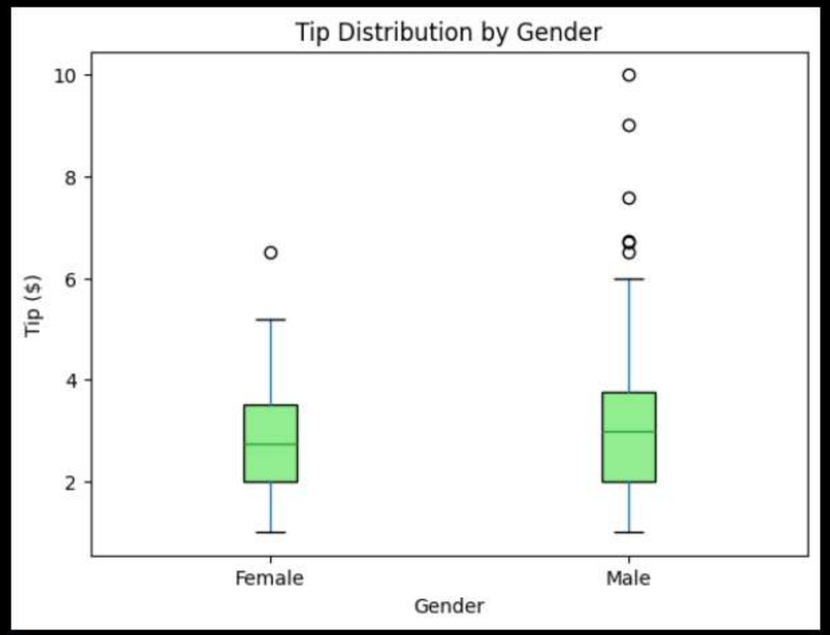
python > Lab Experiments > Lab 7 > lab7.ipynb > # Scatter Plot - Total Bill vs Tip with Smoker Color Coding

+ Code + Markdown | Run All | Restart | Clear All Outputs | Jupyter Variables | Outline ... | venv (Python 3.12.10)

```
# Boxplot - Tip by Sex
plt.figure(figsize=(6, 4))
df.boxplot(
    column="tip",
    by="sex",
    grid=False,
    patch_artist=True,
    boxprops=dict(facecolor="lightgreen"),
)
plt.title("Tip Distribution by Gender")
plt.suptitle("")
plt.xlabel("Gender")
plt.ylabel("Tip ($)")
plt.show()
```

[11] ✓ 0.0s Python

```
<Figure size 600x400 with 0 Axes>
```



Open Editors
GROUP 1
Lab1.py python\Lab Experiments U
Lab2.py python\Lab Experiments U
Lab3.py python\Lab Experiments U
Lab4.py python\Lab Experiments U
Lab5.py python\Lab Experiments U
Lab6.py python\Lab Experiments U
Lab7.py python\Lab Experiments U
lab7.ipynb python\Lab Experiments\... U
WINDOW 2: GROUP 1
lab7.ipynb python\Lab Experiments\... U

EDA
python
Assignment
Day 1
Day 2
Day 3
Day 4
Day 5
Day 6
Lab Experiments
Lab 7
lab7.ipynb U
tips.csv U
Lab1.py U
Lab2.py U
Lab3.py U
Lab4.py U
Lab5.py U
Lab6.py U
Lab7.py U
venv
.gitignore
coffee_sales.csv
matplotlib-cheatsheet.ipynb
matplotlib-cheatsheet.py
numpy-cheatsheet.py
pandas-cheatsheet.py
pandas-csv-template.py
pba2-answers.txt

30°C Mostly sunny | Search | ENG IN | 11:59 12-11-2025