

Great — I see your **Practice Exercise** from the PDF. I'll provide the **questions along with complete Python code solutions** (using matplotlib and numpy).

Here's the combined set:

Practice Exercise with Code

```
import matplotlib.pyplot as plt
import numpy as np

# Sample Data (Temperature in °C, Rainfall in mm)
days = ["Mon", "Tue", "Wed", "Thu", "Fri"]
temperature = [30, 32, 31, 29, 33] # Example temperature values
rainfall = [12, 8, 15, 10, 5]      # Example rainfall values

# -----
# 1. Line Chart – Temperature Trend
# -----
plt.plot(days, temperature, marker='o', linestyle='-',
color='b', label="Temperature")
plt.title("Temperature Trend Over 5 Days")
plt.xlabel("Days")
plt.ylabel("Temperature (°C)")
plt.grid(True)
plt.legend()
plt.show()

# -----
# 2. Scatter Plot – Specific Day Comparison
#     Example: Wednesday vs Friday
# -----
day_indices = [2, 4] # Wed & Fri indices
temps_compare = [temperature[2], temperature[4]]

plt.scatter(["Wednesday", "Friday"], temps_compare,
            color=["red", "green"], s=[100, 150])
plt.title("Temperature Comparison: Wednesday vs Friday")
plt.ylabel("Temperature (°C)")
plt.show()

# -----
# 3. Bar Chart – Daily Temperatures
```

```

# -----
plt.bar(days, temperature, color=["orange", "blue", "green",
    "red", "purple"])
plt.title("Daily Temperatures")
plt.xlabel("Days")
plt.ylabel("Temperature (°C)")
plt.show()

# -----
# 4. Average Temperature Calculation
# -----
avg_temp = np.mean(temperature)
print(f"Average Temperature over 5 days: {avg_temp:.2f}°C")

# Annotating the average on line chart
plt.plot(days, temperature, marker='o', linestyle='-',
    color='b')
plt.axhline(y=avg_temp, color='r', linestyle='--',
    label=f"Avg Temp: {avg_temp:.2f}°C")
plt.title("Temperature Trend with Average Line")
plt.xlabel("Days")
plt.ylabel("Temperature (°C)")
plt.legend()
plt.grid(True)
plt.show()

# -----
# 5. Pie Chart – Rainfall Contribution
# -----
plt.pie(rainfall, labels=days, autopct="%1.1f%%",
    startangle=90,
    colors=["skyblue", "lightgreen", "pink", "gold",
    "violet"])
plt.title("Rainfall Contribution over 5 Days")
plt.show()

```

✅ This covers **all 5 questions** from your PDF:

1. Line Chart with markers & grid.
2. Scatter Plot (Wednesday vs Friday).
3. Bar Chart of daily temperatures.
4. Average temperature calculation & annotation.
5. Pie Chart for rainfall contributions.

Do you want me to **keep this as a single notebook-style script** (all outputs in one run), or **split each question into separate programs** for clarity (Q1.py, Q2.py, ...)?