Evidences:

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

# Step 1: Load some sample data (replace with your dataset later)
data = {
    "Student": ["A", "B", "C", "D", "E"],
    "Math": [75, 88, 60, 95, 70],
    "Science": [80, 78, 65, 89, 72],
    "English": [70, 90, 55, 92, 68]
}
df = pd.DataFrame(data)

# Step 2: Calculate overall average
df["Average"] = df[["Math", "Science", "English"]].mean(axis=1)

# Step 3: Visualize performance
plt.figure(figsize=(8,5))
sns.barplot(x="Student", y="Average", data=df)
plt.title("Student Performance (Average across subjects)")
plt.show()

# Step 4: Identify weak areas (numeric only)
weak_subjects = df[["Math", "Science", "English"]].mean().sort_values().head(2)
print("Weak areas:", weak_subjects)

# Clean output
for subject, score in weak_subjects.items():
    print(f"Weak area detected: {subject} with average score {score:.2f}")
```

jupyter student_analytics Last Checkpoint: 36 seconds ago

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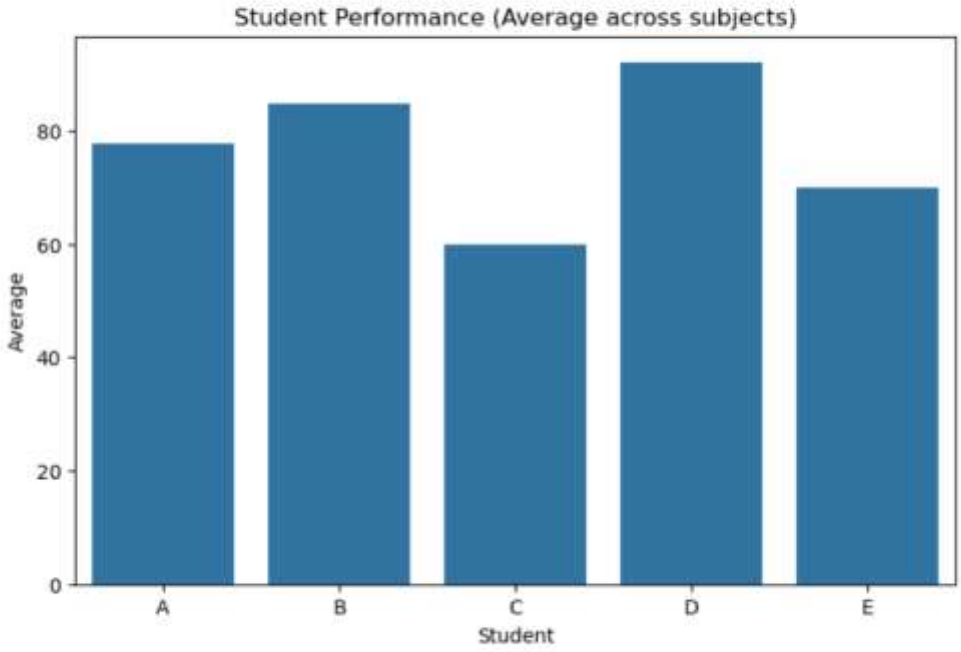
Code JupyterLab Python [conda env:student_analytics]

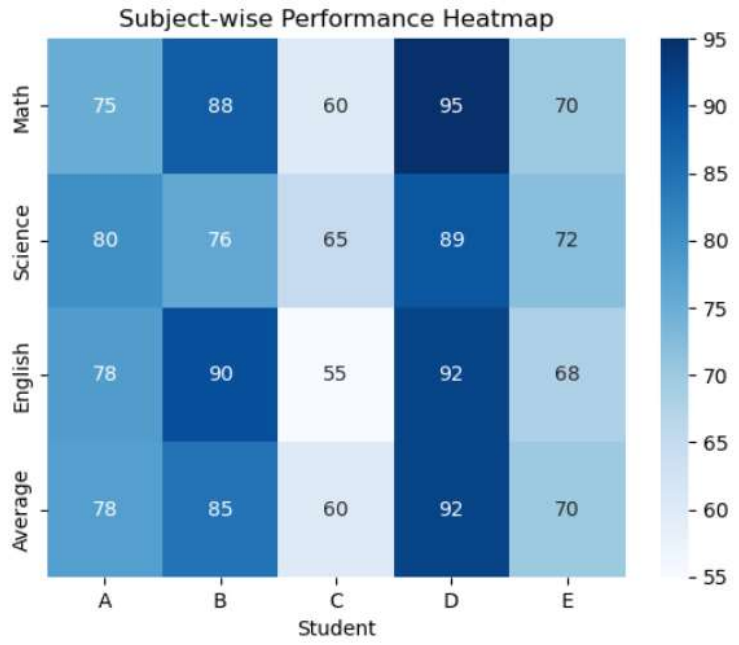



```
Weak areas: Science    76.4
English    76.6
dtype: float64
Weak area detected: Science with average score 76.40
Weak area detected: English with average score 76.60
```

Description:
This bar chart highlights the average performance of each student across all subjects. The output additionally identifies weak subjects, such as Science and English, where overall class averages are lowest.

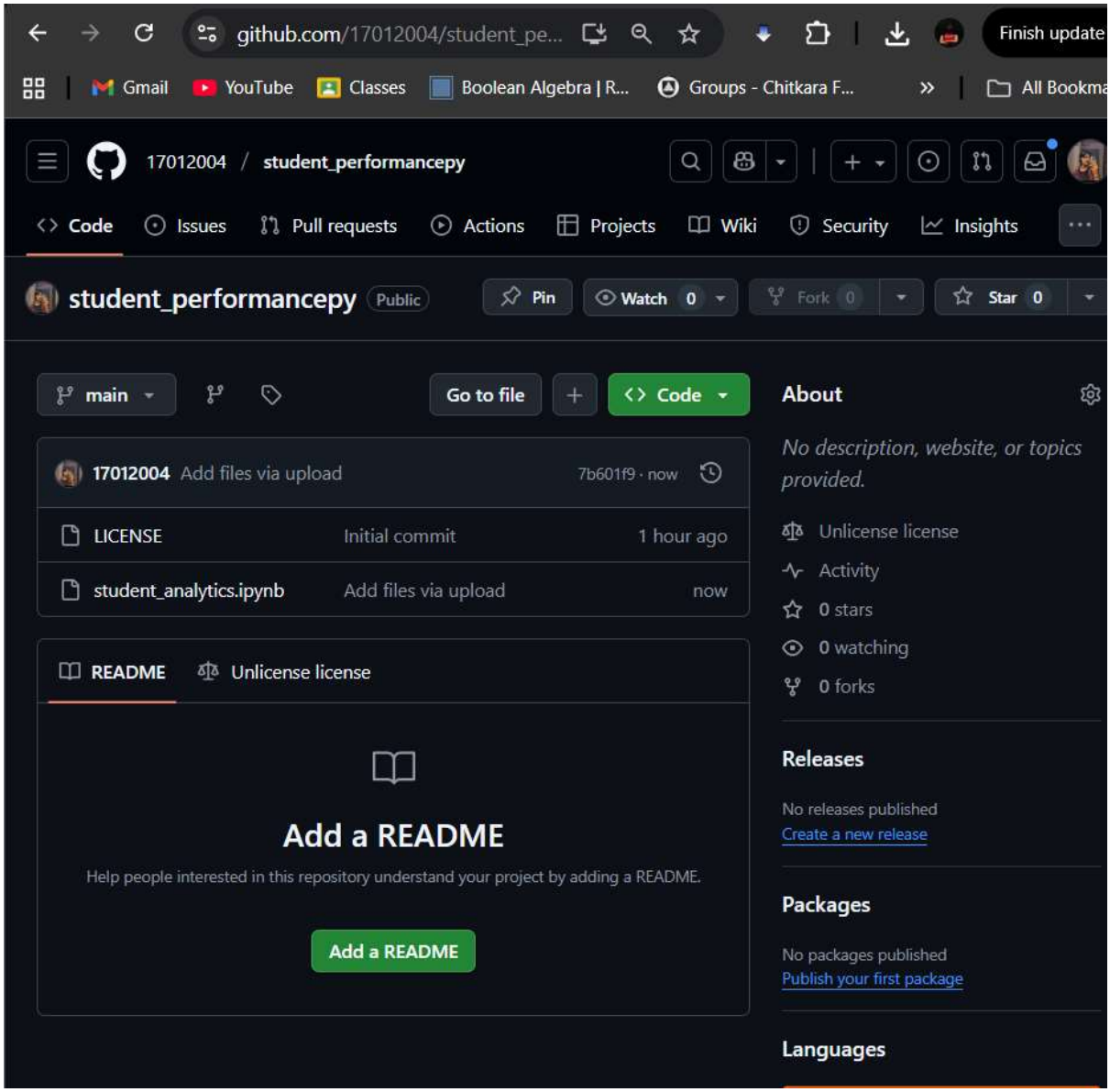
Why Included:
This figure provides evidence of how I implemented **performance tracking and weak area detection** in line with the Student Performance Analytics & Pattern Recognition prompt. It shows how real-time analytics could guide targeted interventions by teachers.

```
[10]: import seaborn as sns
      sns.heatmap(df.set_index("Student").T, annot=True, cmap="Blues")
      plt.title("Subject-wise Performance Heatmap")
      plt.show()
```



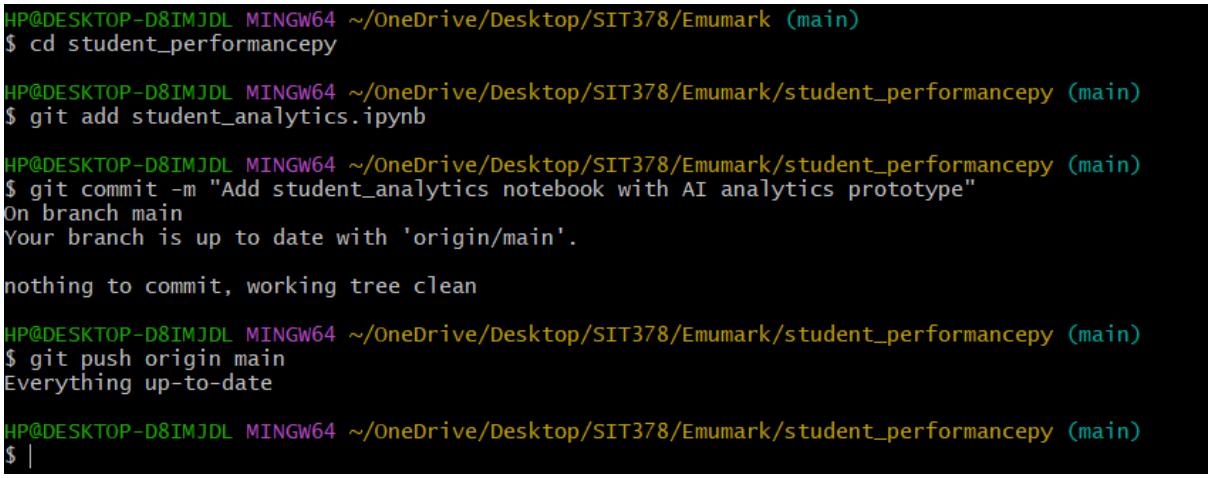
Description:
The heatmap visualizes student performance across subjects (Math, Science, and English), with darker shades indicating higher performance levels. This helped in identifying areas of strength and weakness across multiple students.

Why Included:
This demonstrates my work on **data visualization and analysis**, showing how I applied AI-powered analytics to make insights accessible to teachers. It also reflects progress toward the **Performance Pattern Analysis** requirement of my chosen prompt.



Description:
This screenshot shows the GitHub repository student_performancepy, where I uploaded my Jupyter Notebook file student_analytics.ipynb. The repository demonstrates my ability to use GitHub for version control and collaborative work.

Why Included:
It evidences my contribution to setting up a structured project repository, ensuring that project files are stored, versioned, and accessible for team collaboration. This also aligns with software engineering practices of documentation and transparency.



Description:
This screenshot shows the process of adding and committing the student_analytics.ipynb notebook into my GitHub repository student_performancepy using Git Bash. The commit message clearly documents the addition of the AI analytics prototype. The final push confirms that the repository is synchronized with the remote main branch on GitHub.

Why Included:
This demonstrates my ability to use **Git for version control**, following best practices such as meaningful commit messages and maintaining synchronization between local and remote repositories. It also evidences my contribution of new functionality to the team repository in a transparent and trackable way.