Python for Scientific Computing

What I Submitted

1. simple_analysis.py - A Python script showing basic programming

2. learning_notebook.ipynb - Jupyter notebook with NumPy, Pandas, and Matplotlib examples

3. GitHub repository with all code

Skills Demonstrated

• Writing functions in Python

• Using loops (for loop to iterate through data)

• Using conditionals (if/else statements)

• Working with NumPy arrays

• Creating and filtering Pandas DataFrames

• Making simple plots with Matplotlib

• Reading and writing files

Example Code from simple_analysis.py

```
def calculate_average(numbers):
    total = sum(numbers)
    count = len(numbers)
    return total / count

scores = [85, 92, 78, 90, 88, 76, 95, 82]

# Using loops and conditionals
for score in scores:
    if score >= 85:
        print(f"High score: {score}")
```

What I Learned

Through this assignment, I practiced basic Python programming and got familiar with scientific computing libraries. I can now write simple scripts to analyze data, create basic visualizations, and work with CSV files.

The Jupyter notebook helped me understand how NumPy makes calculations easier, how Pandas organizes data in tables, and how to create simple plots with Matplotlib.