AI ASSISTED CODING

LAB ASSIGNMENT-5.4

Task Description #1:

• Prompt GitHub Copilot to generate a Python script that collects user data (e.g., name, age, email). Then, ask Copilot to add comments on how to anonymize or protect this data.

PROMPT : "Generate a Python script that collects user name, age, and email.

Add comments on how to anonymize or protect this data."""

Lab-5.4.py > ...

```python
#Task 1:
# Collect user data
name = input("Enter your name: ")
age = input("Enter your age: ")
email = input("Enter your email: ")

print(f"Data collected - \n Name: {name},\n Age: {age},\n Email: {email}")
# Task 2:
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS GITLENS Python

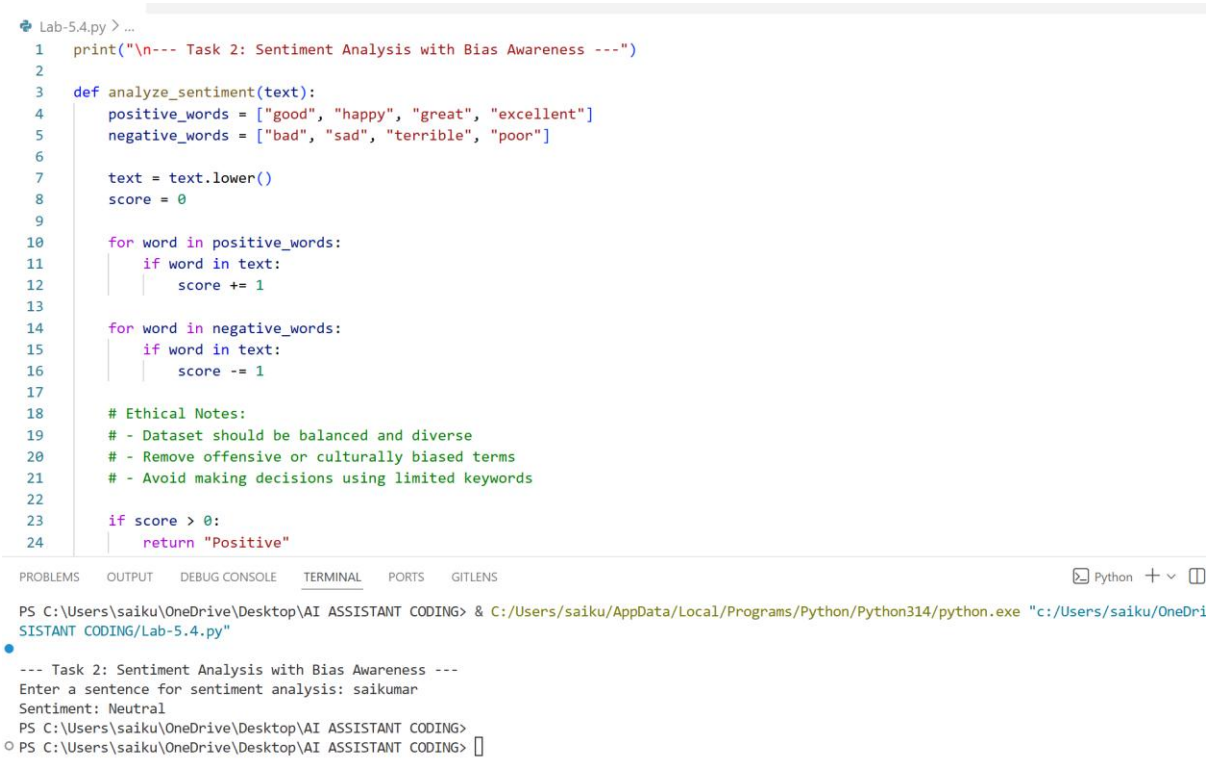
```
PS C:\Users\saiku\OneDrive\Desktop\AI ASSISTANT CODING> & C:/Users/saiku/AppData/Local/Programs/Python/Python314/python.exe "c:/Users/saiku/OneDrive/Desktop/AI ASSISTANT CODING/Lab-5.4.py"
Enter your name: ram
Enter your age: 20
Enter your email: ram@gmail.com
User data collected securely.
PS C:\Users\saiku\OneDrive\Desktop\AI ASSISTANT CODING>
```

Task Description #2:

• Ask Copilot to generate a Python function for sentiment analysis.

Then prompt Copilot to identify and handle potential biases in the data.

Prompt: Generate a Python function for sentiment analysis and include comments to handle or reduce data bias.



Task Description #3:

• Use Copilot to write a Python program that recommends products based on user history. Ask it to follow ethical guidelines like transparency and fairness.

Prompt: Write a Python program that recommends products based on user history and follows ethical guidelines like transparency and fairness.

Lab-5.4.py > ...

```python
print("\n--- Task 3: Ethical Product Recommendation ---")

def recommend_products(user_categories, products):
    recommendations = []

    for product in products:
        if product["category"] in user_categories:
            recommendations.append(product)

    # Ethical Guidelines:
    # - Avoid favoritism toward sponsored products
    # - Give equal visibility to all sellers
    # - Clearly explain recommendation logic to users

    return recommendations

user_history = ["electronics", "books"]

product_list = [
    {"name": "Laptop", "category": "electronics"},
    {"name": "Story Book", "category": "books"},
    {"name": "Shoes", "category": "fashion"},
]

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS GITLENS

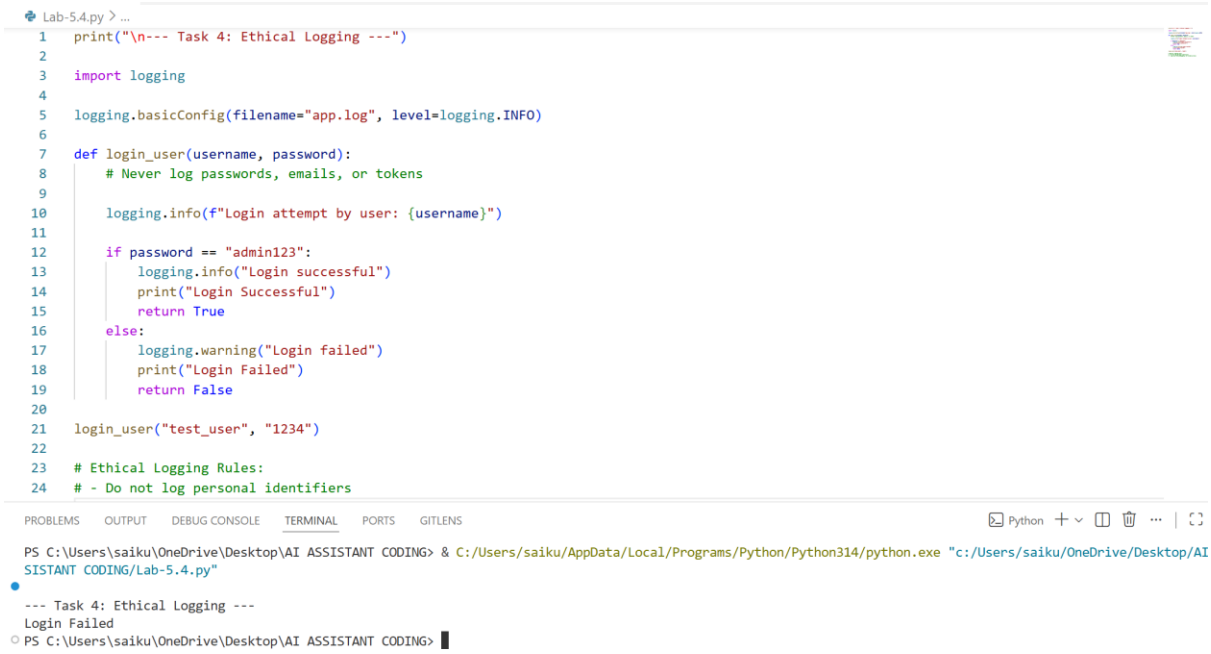
```
PS C:\Users\saiku\OneDrive\Desktop\AI ASSISTANT CODING> & C:/Users/saiku/AppData/Local/Programs/Python/Python314/python
SISTANT CODING/Lab-5.4.py"

--- Task 3: Ethical Product Recommendation ---
Recommendations based on your interests:
- Laptop
- Story Book
Reason: Products were recommended based on your browsing categories.
PS C:\Users\saiku\OneDrive\Desktop\AI ASSISTANT CODING>
```

Task Description #4:

• Prompt Copilot to generate logging functionality in a Python web application. Then, ask it to ensure the logs do not record sensitive information.

Prompt: Generate logging functionality for a Python web application and ensure logs do not record sensitive information.



Task Description #5:

• Ask Copilot to generate a machine learning model. Then, prompt it to add documentation on how to use the model responsibly (e.g., explainability, accuracy limits).

Prompt: Generate a machine learning model and add documentation on responsible usage, explainability, and limitations.

Lab-5.4.py > ...

```python
from sklearn.linear_model import LinearRegression
import numpy as np

print("\n--- Task 5: Responsible Machine Learning Model ---")


# Sample training data (very small dataset)
X = np.array([[1], [2], [3], [4]])
y = np.array([100, 200, 300, 400])

model = LinearRegression()
model.fit(X, y)

prediction = model.predict([[5]])
print("Predicted Output:", prediction)

"""
Responsible AI Usage Notes:
- This model is trained on limited sample data
- Predictions may not generalize to real-world cases
- Do NOT use for medical, legal, or financial decisions
- Always evaluate accuracy and bias before deployment
- Provide explainable results to end users
"""
```

PROBLEMS 2 OUTPUT DEBUG CONSOLE TERMINAL PORTS GITLENS Python

```
PS C:\Users\saiku\OneDrive\Desktop\AI ASSISTANT CODING> & C:/Users/saiku/AppData/Local/Programs/Python/Python314/python.exe "c:/Users/saiku/One
SISTANT CODING/Lab-5.4.py"
Traceback (most recent call last):
  File "c:\Users\saiku\OneDrive\Desktop\AI ASSISTANT CODING\Lab-5.4.py", line 1, in <module>
    from sklearn.linear_model import LinearRegression
ModuleNotFoundError: No module named 'sklearn'
PS C:\Users\saiku\OneDrive\Desktop\AI ASSISTANT CODING>
```