**ASSIGNMENT-5.1**

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**Task Description #1 (Privacy in API Usage)**

Task: Use an AI tool to generate a Python program that connects to a weather API.

**Prompt:***"Generate code to fetch weather data securely without exposing API keys in the code."*

**Expected Output:**

->Original AI code (check if keys are hardcoded).

->Secure version using environment variables

**Prompt:**

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**Code:**

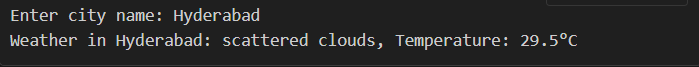
**A screen shot of a computer program

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**Output:**

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**Task Description #2 (Privacy & Security in File Handling)**

**Task:** Use an AI tool to generate a Python script that stores user data (name, email, password) in a file.

**Analyze:** Check if the AI stores sensitive data in plain text or without encryption.

**Expected Output:**

->Identified privacy risks.

->Revised version with encrypted password storage (e.g., hashing).

**Prompt:**

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**Code:**

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**Output:**

**A screen shot of a computer

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**IN the file:**

* Plain-text password storage: Passwords are stored exactly as entered.
* No hashing or encryption: A data breach would expose user passwords.
* Vulnerable to insider threats: Anyone with access to the file can read sensitive data.

**Task Description #3 (Transparency in Algorithm Design)**

**Objective:** Use AI to generate an Armstrong number checking function with comments and explanations.

**Instructions:**

1. Ask AI to explain the code line-by-line.
2. Compare the explanation with code functionality.

**Expected Output:**

* Transparent, commented code.
* Correct, easy-to-understand explanation.

**Prompt:**

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**Code:**

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**Output:**

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**Task Description #4 (Transparency in Algorithm Comparison)**

**Task:** Use AI to implement two sorting algorithms (e.g., QuickSort and BubbleSort).

**Prompt:***"Generate Python code for QuickSort and BubbleSort, and include comments explaining step-by-step how each works and where they differ."*

**Expected Output:**

* Code for both algorithms.
* Transparent, comparative explanation of their logic and efficiency.

**Prompt:**

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**Code:**

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**Output:**

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**Task Description #5 (Transparency in AI Recommendations)**

**Task:** Use AI to create a product recommendation system.

**Prompt:***"Generate a recommendation system that also provides reasons for each suggestion."*

**Expected Output:**

* Code with explainable recommendations.
* Evaluation of whether explanations are understandable.

**Prompt:**

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**Code:**

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AI-generated content may be incorrect.**

**A screen shot of a computer program

AI-generated content may be incorrect.**

**Output:**

**A screen shot of a computer screen

AI-generated content may be incorrect.**

**Task Description #6 (Transparent Code Generation)**

**Task:** Ask AI to generate a Python function for calculating factorial using recursion.

**Prompt:***"Generate a recursive factorial function with comments that explain each line and a final summary of the algorithm’s flow."*

**Expected Output:**

* Fully commented code.
* Clear documentation of how recursion works.

**Prompt:**

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**Code:**

**A computer screen shot of a program code

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**Output:**

**Top of Form**

**Task Description #7 (Inclusiveness in Customer Support)**

**Code Snippet:**

**A computer code with text

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**Task:**

Regenerate the code so that support messages use neutral language (e.g., “Dear {name}”) and optionally accept preferred titles.

**Expected Output:**

* Neutral, user-friendly support responses.

**Prompt:**

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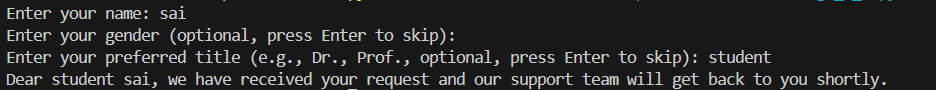
AI-generated content may be incorrect.**

**Code:**

**A screen shot of a computer program

AI-generated content may be incorrect.**

**Output:**

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