**AI ASSISTED CODING**

**Assignment-3.1**

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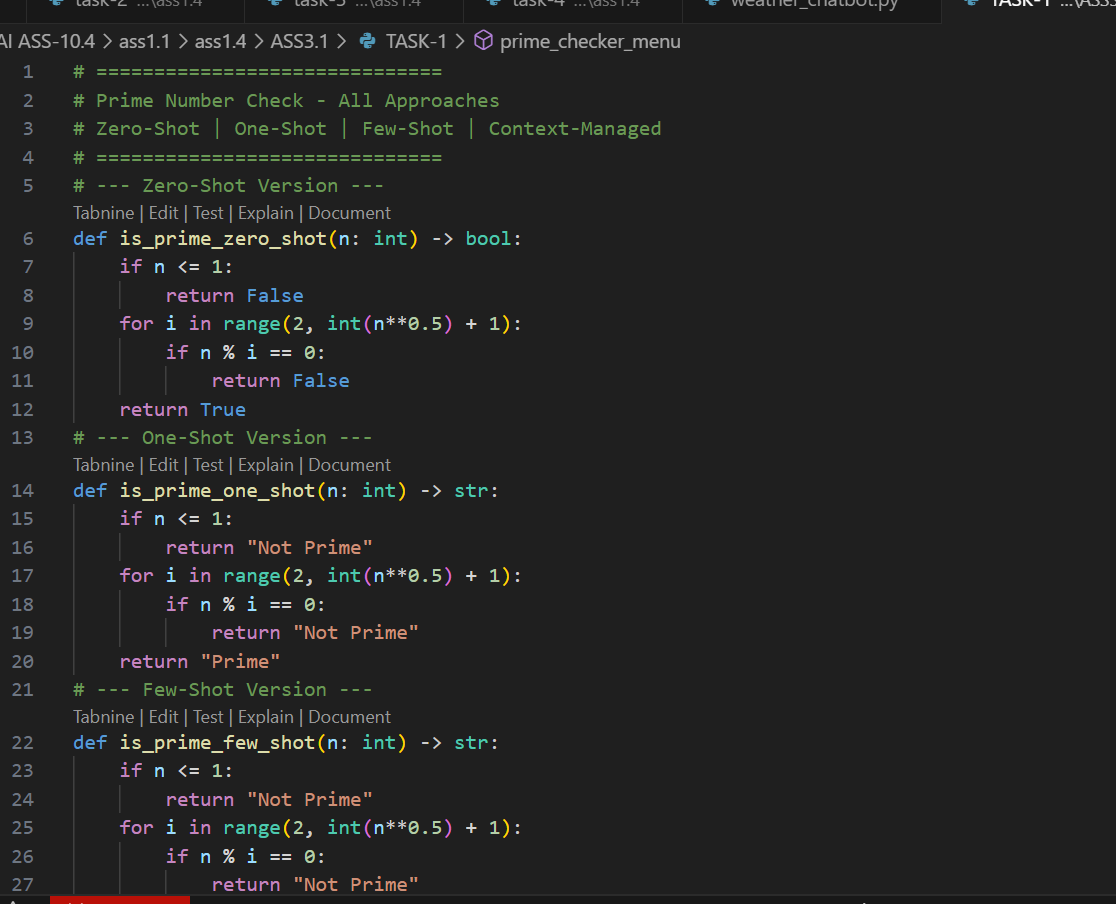
HT NO.: 2403A51255

Batch No.: 11

1. Select a simple task: *‘Write a Python function to check if a number is prime."*
2. Use different prompting strategies to generate the solution:
3. Zero-Shot – no examples.
4. One-Shot – one example provided.
5. Few-Shot – multiple examples provided.
6. Context-Managed – detailed prompt with constraints and instructions.
7. Record AI responses and refine prompts to improve code quality.
8. Request AI to optimize the logic for efficiency.
9. Compare results and document improvements.
10. **Sample Prompts**

* Zero-Shot:  
  Write a Python function to check if a number is prime.
* One-Shot:  
  Example: Input: 5 → Output: Prime. Now, write a function to check if a number is prime.

Code:



A screen shot of a computer

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A screen shot of a computer program

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Output:

A screenshot of a computer

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A screenshot of a computer program

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**Task: Mobile Data Usage Billing Application**   
Objective:  
Use Python programming and AI-assisted coding tools to create an  
application that simulates mobile data billing for a telecom service  
provider.  
**Instructions**1. Use GitHub Copilot or Google Gemini to assist in writing the program.  
2. Read the following inputs from the user:  
o Data Consumed (in GB)  
o Plan Type (Prepaid / Postpaid)  
o Additional Services Used (e.g., caller tune, OTT  
subscription, etc.)  
3. Implement billing logic to calculate:  
o DC (Data Charges) – charges based on data  
consumption  
o VC (Value-added Charges) – charges for additional  
services  
o Tax – applicable tax on the total bill  
4. Display an itemized bill showing:  
o Plan Type  
o Data Usage and Charges  
o Value-added Services and Charges  
o Tax  
o Total Bill Amount  
**Requirements**  
● Students must refer to their actual mobile bill for charge  
structure (data cost, service fees, taxes) to make the program

● AI assistance (Copilot/Gemini) must be used to generate  
refine the initial code.  
**Deliverables**● AI prompts used for code generation.  
● AI-generated Python code and any optimized version.  
● Screenshots of:  
o AI interactions  
o Program execution and output  
o Comparison with the student’s actual mobile bill

**Code:**

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**Output:**

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AI-generated content may be incorrect.**

**Task:** Develop an LPG Billing System Objective  
Apply your Python programming skills and utilize AI-assisted coding tools to build an application that calculates the LPG bill based on specified customer inputs and billing parameters.  
**Instructions**1. Use GitHub Copilot or Google Gemini to assist in writing  
and refining the program.  
2. Read the following user inputs:  
o Cylinder Type (Domestic 14.2 kg / Domestic 5 kg /  
Commercial 19 kg / Commercial 47.5 kg)  
o Number of Cylinders Booked  
o Subsidy Amount (applicable only for domestic  
cylinders)  
3. Refer to the given LPG Price List to determine the price per  
cylinder:  
o Domestic LPG (14.2 kg) → ₹905.00  
o Domestic LPG (5 kg) → ₹335.50  
o Commercial LPG (19 kg) → ₹1,886.50  
o Commercial LPG (47.5 kg) → ₹4,712.00

o Delivery Charges (₹10 to ₹50)

4. Implement the billing formula:  
Bill Amount = (Price per Cylinder × Quantity) - Subsidy (if applicable) + Delivery Charges  
5. Calculate and display an itemized bill including:  
● Cylinder Type  
● Number of Cylinders  
● Base Amount  
● Subsidy  
● Delivery Charges  
● Total Bill Amount  
**Deliverables**● A report containing:  
o AI prompts used to generate the program  
o AI-generated Python code  
o Line-by-line explanation of the code

**Code:**

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**A screen shot of a computer program

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**Output:**

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