**🧾 SECTION 1: BASIC DETAILS**

**Name:** Jagruti Pandey  
**AI Agent Title / Use Case:** AI Agent to assist students in preparing for data analyst interviews with personalized mock questions and feedback.

**🧠 SECTION 2: PROBLEM FRAMING**

**1.1. What problem does your AI Agent solve?**  
Many students preparing for data analyst roles struggle to get personalized mock questions that match their skill level. This agent generates targeted questions and provides instant feedback to help users prepare better.

**1.2. Why is this agent useful?**  
It helps users simulate real test environments, identify weak areas, and improve with contextual explanations—saving time and increasing confidence before interviews.

**1.3. Who is the target user?**  
Students or early-career professionals preparing for data analyst interviews, especially those focused on SQL, Python, Excel, and data interpretation.

**1.4. What not to include?**  
Did not include resume review or company-specific questions to keep the scope focused on technical prep.

**🧱 SECTION 3: 4-LAYER PROMPT DESIGN**

**🔹 3.1 INPUT UNDERSTANDING**

**Prompt:**  
"Ask the user for their skill level (beginner/intermediate/advanced) and preferred topic (SQL/Python/Excel/Case Study)."

**What is this prompt responsible for?**  
It helps personalize the question difficulty and topic to the user’s input.

**Example Input + Output:**  
**Input:** Beginner, Python  
**Output:** "Here’s a beginner-level Python question: Write a program to count the number of vowels in a given string."

**🔹 3.2 STATE TRACKER**

**Prompt:**  
"Store user preferences and past performance to adjust future question difficulty."

**How does this help the agent “remember”?**  
Used simulated memory via variables like user\_level, past\_score, and selected topic. Responses adapt based on these variables.

**Simulated memory:**  
System message maintains a summary:  
"User is at an intermediate level, prefers SQL, and scored 2/5 in the last round."

**🔹 3.3 TASK PLANNER**

**Prompt:**  
"Generate 5 random but relevant questions based on the user's topic and level. After each answer, evaluate and update score."

**What steps does your agent take internally?**

* Branching: based on skill level
* Chaining: question → response → evaluation → next question
* Final summary report with suggestions

**🔹 3.4 OUTPUT GENERATOR**

**Prompt:**  
"Present questions clearly using Markdown. Give immediate, constructive feedback. Use a friendly and motivating tone."

**Special behaviours:**  
✓ Used markdown for clarity  
✓ Encouraged the user after each question  
✓ Showed explanations for incorrect answers

**SECTION 4: CHATGPT EXPLORATION LOG**

| **Attempt** | **Prompt Variant** | **What Happened** | **What You Changed** | **Why You Changed It** |
| --- | --- | --- | --- | --- |
| 1 | "Ask a Python question" | Too generic | Added skill level | To match user ability |
| 2 | "Evaluate answer with score" | Feedback vague | Added explanations | Help user learn from mistake |
| 3 | "Track last 5 scores" | Not remembered | Added system message context | Simulate memory |
| 4 | "End with suggestions" | Output lacked depth | Included resource links | Provide actionable help |

**🧪 SECTION 5: OUTPUT TESTS**

**Test 1: Normal input**  
**Input:** "Intermediate, SQL"  
**Output:**  
*"Write a SQL query to find the second-highest salary from the Employee table."*

**Test 2: Vague input**  
**Input:** "I want to practice"  
**Output:**  
*"Can you tell me your skill level (beginner/intermediate/advanced) and preferred topic (SQL, Python, Excel)?"*

**Test 3: Invalid input**  
**Input:** ""  
**Output:**  
*"Please enter your skill level and preferred topic to begin."*

**🔄 SECTION 6: REFLECTION**

**6.1. What was the hardest part of this assignment?**  
Balancing personalization with logical flow in a single session. Memory simulation was tricky to get right.

**6.2. What part did you enjoy the most?**  
Designing the question logic and the instant feedback system. It felt like building a tutor!

**6.3. If given more time, what would you improve or add?**  
I would add visual performance charts, integrate resume-based question generation, and maybe save user sessions.

**6.4. What did you learn about ChatGPT or prompt design?**  
Small prompt changes create big differences. Layered prompting helps maintain control and flexibility.

**6.5. Did you ever feel stuck? How did you handle it?**  
Yes, especially with output formatting. I reviewed example prompt chains from the OpenAI Cookbook and iterated step by step.

**🧠 SECTION 7: HACK VALUE**

* Simulated scoring and memory without external database
* Built a modular prompt chain that can be reused for other job roles
* Explored chaining and role-play for mock interview mode