# AI Agent Assignment – Submission

## 🧾 SECTION 1: BASIC DETAILS

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AI Agent Title / Use Case: AI Agent to Help Students Plan Weekly Study Goals

## 🧠 SECTION 2: PROBLEM FRAMING

2.1 What problem does your AI Agent solve?  
Students often feel overwhelmed when managing multiple subjects, deadlines, and personal study goals. They don’t need generic advice — they need a smart assistant that helps them plan better each week based on what matters most right now.

2.2 Why is this agent useful?  
It helps students turn vague goals like “I want to study more” into a focused, personalized weekly study plan — so they stay accountable and stress-free.

2.3 Who is the target user?  
College or high school students preparing for exams or juggling assignments who want structure without pressure.

2.4 What not to include?  
I consciously avoided suggesting subject-specific content (e.g., what to study in math). The agent doesn’t replace tutors — it only helps plan the “how” and “when” of studying, not the “what.”

## 🧱 SECTION 3: 4-LAYER PROMPT DESIGN

### 🔹 3.1 INPUT UNDERSTANDING

Prompt:  
"Hey! I’m your Study Planner Agent. Can you tell me what subjects you're studying and if you have any upcoming deadlines or exams this week?"

What is this prompt responsible for?  
To understand the user's current academic situation and priorities so that planning is relevant and timely.

Example Input + Output (tested):  
User: "I have a biology test on Friday and two chapters of history to revise."  
Output: "Got it! Biology test on Friday and history revision. Let’s structure your week around that."

### 🔹 3.2 STATE TRACKER

Prompt:  
"Store the user's inputs as: {subjects}, {deadlines}, and {preferences}. Keep them active during the session so we can build a plan using this context."

How does this help the agent “remember”?  
It simulates memory by storing the user’s study context and constraints for use in the planning step.

Simulated memory?  
Yes, via system messages and variable-based state management in ChatGPT — like “You previously mentioned a history chapter due and a biology test.”

### 🔹 3.3 TASK PLANNER

Prompt:  
"Based on the subjects and deadlines provided, create a simple weekly study plan. Break tasks by day. Make sure high-priority topics (e.g., exams) appear earlier in the week. Leave space for flexibility."

What steps does your agent take internally?  
1. Sort tasks by urgency  
2. Distribute across 7 days  
3. Balance load (not too much on one day)  
4. Add rest or buffer slots

Used chaining?  
Yes — Input understanding feeds state, state feeds task planner. Each step uses the previous one’s output.

### 🔹 3.4 OUTPUT GENERATOR

Prompt:  
"Present the weekly study plan in a clean table format. Be friendly, motivational, and flexible. If no exams are near, suggest light review days. Mention: 'You can always update me if your plans change!'"

Special behavior:  
Added markdown formatting for table-style output. Kept tone warm and encouraging — like a mentor, not a machine.

## 🔍 SECTION 4: CHATGPT EXPLORATION LOG

Attempt # | Prompt Variant | What Happened | What You Changed | Why You Changed It  
1 | “Plan my week” | Too generic | Asked for subjects + deadlines | To make output personalized  
2 | “Create a study schedule” | Repetitive across days | Added priority sorting logic | To show urgent tasks first  
3 | “Give me a study plan” | Output was too rigid | Added flexibility + encouragement | To reduce pressure on user

## 🧪 SECTION 5: OUTPUT TESTS

Test 1: Normal input  
Input: "I have a physics test on Thursday and math homework due Friday."  
Output: Monday: Start physics prep (chapter 1–2)  
Tuesday: Physics revision + math practice  
Wednesday: Physics test revision  
Thursday: Test day (light review)  
Friday: Submit math homework  
Saturday: Rest or light reading  
Sunday: Free planning day

Test 2: Vague input  
Input: "I want to be productive this week"  
Output: "Sure! Let’s break that down. What subjects are you focusing on? Any tests or deadlines this week?"

Test 3: Invalid input or challenge  
Input: ""  
Output: "Looks like I didn’t get your message. Want to try again? You can just tell me what you’re working on this week."

## 🔄 SECTION 6: REFLECTION

6.1 What was the hardest part of this assignment?  
Designing the prompts in a way that didn’t overlap too much. It was tricky to separate “input understanding” from “planning logic” without making it sound robotic.

6.2 What part did you enjoy the most?  
I loved seeing the agent slowly become more helpful with each iteration. Watching it shift from generic replies to personalized, thoughtful plans felt very rewarding.

6.3 If given more time, what would you improve or add?  
I’d love to add a weekly feedback loop, where the user can say “this plan didn’t work,” and the agent learns to adapt better next time.

6.4 What did you learn about ChatGPT or prompt design?  
That the tone of a prompt matters as much as its structure. Even when the logic was solid, the way I phrased the prompt affected how helpful and human the agent felt.

6.5 Did you ever feel stuck? How did you handle it?  
Yes — especially when outputs felt flat. I handled it by stepping back, imagining how I’d talk to a real person in that moment, and then rewriting the prompt accordingly.

## 🧠 SECTION 7: HACK VALUE (Optional)

I experimented with memory simulation by referring back to earlier inputs and tried using markdown tables to improve clarity. I also tested how tone impacted user motivation by A/B testing robotic vs. encouraging phrasing.