DAY – 4

CHATGPT PLAYGROUND – OVERVIEW & FEATURES

On Day 4, we explored the ChatGPT Playground, a flexible environment provided by OpenAI that allows users to experiment with prompts, adjust model behaviour, and generate various types of outputs. The Playground acts as a sandbox for testing and refining prompts in a more controlled, customized setting.

We studied several important configuration options within the Playground:

- **Temperature:** Controls the creativity or randomness of the response. Lower values make the output more focused and deterministic, while higher values make it more diverse and imaginative.
- **Max Tokens:** Sets the limit for the length of the model's response.
- **Tools:** Includes functions like code generation, data analysis, browsing, DALL·E image generation, and file handling.
- **Output Formats:** We also learned how ChatGPT can return output in multiple structured forms such as:
    - JSON object
    - JSON schema
    - Plain text
    - Step-by-step explanations

This session helped us understand how prompt configuration affects the outcome, especially in technical or structured tasks.

SYSTEM PROMPT VS USER PROMPT

We studied the distinction between two fundamental components of AI-based communication:

- **System Prompt:** Sets the behaviour or persona of the AI (e.g., “You are a helpful assistant” or “You are an expert Python developer”).
- **User Prompt:** The actual input or query from the user (e.g., “Generate a Python program for the Fibonacci series”).

This separation is important as it allows us to control not just the *task* but also *how* the AI responds.

SHIFT TO GEMINI AI STUDIO

Since the ChatGPT Playground is a paid service, we transitioned to using Google's Gemini AI Studio, which provides similar functionality for free. The Gemini AI Studio supports both text and multimodal inputs and gives us the ability to define system roles and test prompts with different configurations.

We explored it thoroughly and carried out structured experiments to understand the effect of temperature and format.

PRACTICAL EXPERIMENTS ON GEMINI STUDIO

We performed a task using different prompt types and configurations:

Scenario 1:

- **System Prompt:** You are an expert Python developer.
- **User Prompt:** Provide me the code of Fibonacci series and also explain me in step-by-step manner.
- **Format:** Code Execution
- **Temperature:** 1
- **Response Time:** ~40 seconds

Scenario 2:

- **User Prompt (modified):** Provide me the code to find the Fibonacci series and also explain me in step-by-step manner.
- **Format:** Structured
- **Temperature:** 1.5
- **Response Time:** ~15 seconds

These experiments gave us a practical understanding of:

- How temperature affects creativity and response length.
- How structured formats influence clarity and response speed.
- How a well-defined system prompt helps improve technical accuracy.

CONCLUSION

Day 4 was a **hands-on and highly practical** session, offering a deeper insight into how prompt-based AI systems can be tuned using platforms like ChatGPT Playground and Gemini AI Studio. We not only learned about model configuration and prompt structuring, but also experienced the **impact of prompt design** on speed, output style, and usefulness.

The understanding of system prompts, user prompts, and temperature settings will be especially valuable as we move into more advanced prompt engineering techniques in the upcoming days.