# (TR-103) PROMPT ENGINEERING –

# Training Day 4 Report:

## Introduction to Google AI Studio:

- Google AI Studio is a web-based platform developed by Google for interacting with its generative AI model, Gemini.
- It provides a clean and intuitive interface for prompt-based experimentation and output generation.
- Users can input structured prompts and fine-tune model responses using configurable parameters.
- The platform is particularly useful for learners and developers to understand AI behavior without writing code.
- It allows real-time testing and adjustment of prompts, enhancing understanding of how AI models process instructions.

## Session Overview:

- The session began with an introduction to the **OpenAI Playground,** a platform for working with large language models.
- However, due to its usage limitations (such as subscription or credit-based access), learners were directed toward **Google AI Studio** as a free and feature-rich alternative.
- Participants explored the Gemini model using Google AI Studio's user interface, configuring parameters and crafting prompts to control the style and output of the AI.

## Key Parameters in Prompt Configuration:

### 1. Temperature:

- Controls the level of randomness or creativity in the AI's response.
- A lower value (e.g., 0.2) produces more focused and predictable outputs.
- A higher value (e.g., 0.8–1.0) generates more creative and diverse responses.

### 2. Max Tokens:

- Sets the maximum length of the output generated by the model.

- A lower value results in shorter responses, while a higher value allows for more detailed output.

**3. Top_p:**

- Regulates the diversity of word selection by the AI model.
- With a lower top_p (e.g., 0.5), the model selects from only the most probable words.
- A higher top_p (e.g., 0.9) allows greater variety in the output, increasing creativity.

These parameters work together to help users customize how deterministic or imaginative the model's responses should be.

## Prompt Design and Structure:

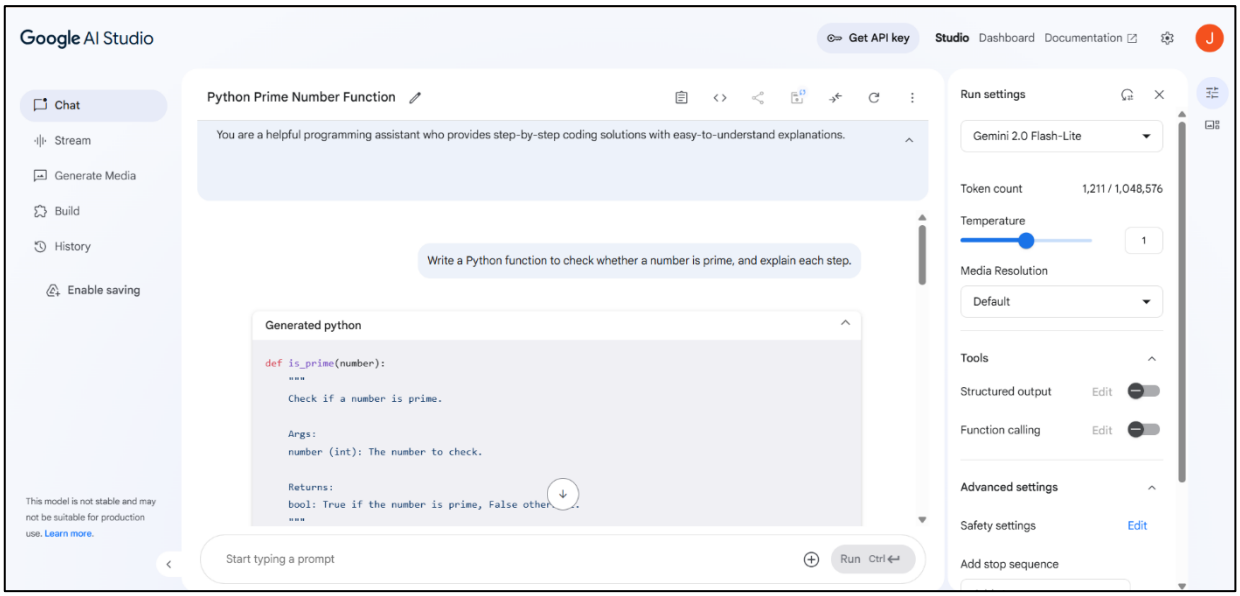
A key part of interacting with AI models is crafting effective prompts. During the session, prompt design was introduced with two main types:

- **System Prompt:**
  - Sets the role or behavior of the AI.
  - Example:
    "You are a helpful assistant that explains complex concepts in simple terms."
- **User Prompt:**
  - The actual instruction or query given by the user.
  - Example:
    "Explain the difference between Artificial Intelligence and Machine Learning."

Understanding how to design prompts properly is essential for generating meaningful and accurate responses.

## Screenshot of Google AI Studio Interface:

This screenshot illustrates the interface used for prompt-based experimentation with the Gemini model.




# API Key Generation:

An API key was successfully generated from the Google AI Studio platform. This key is essential for:

- Accessing the Gemini model programmatically
- Integrating AI capabilities into custom applications
- Enabling backend communication with the AI through HTTP requests.

This step marks an important milestone in bridging user interaction with real-world application development.