Part 2 — Prompt Refinement using RTFC

Objective

Improve unclear or inefficient prompts using the RTFC framework so AI outputs are more accurate, structured, and cost-efficient.

RTFC Components

Component Description

R — Role Tell the AI who it should act as (e.g., “You are a data analyst”).

T — Task Specify what you want the AI to do (e.g., “Summarize the experiment results”).

F — Format Define how the output should look (e.g., bullet points, table).

C — Constraint Add limits or tone (e.g., “Keep it under 100 words”, “Use non-technical language”).

Steps

Each student brings a “bad” or unclear prompt related to their project.

Refine the prompt using RTFC to make it clear, structured, and precise.

Test both versions in Google AI Studio.

Document the results:

Before (bad prompt)

After (RTFC refined prompt)

Notes explaining why the refined prompt is better.

Example

Bad Prompt (Before):

Summarize results.

Refined Prompt (After — RTFC Applied):

Role: You are a research analyst.

Task: Summarize the key insights from the dataset, highlighting trends and anomalies.

Format: Provide a table with columns “Metric”, “Observation”, “Conclusion”.

Constraint: Use simple language suitable for non-technical team members.

Notes on improvement:

Added role to control tone and style.

Structured output using a table for clarity.

Added constraint to make it readable for all stakeholders.