**🧠 Task 1: Practicing Chain-of-Thought Reasoning for Database Selection**

In this task we will be practicing **Chain-of-Thought Reasoning** prompting technique to select a proper **Database** for an Application.

**📚 Theory**

**AI Technique: Chain-of-Thought Reasoning**

**Chain-of-Thought (CoT) reasoning** is an approach used in prompting AI models to think **step-by-step**, mimicking how humans often solve complex problems.  
Instead of jumping straight to an answer, the AI is encouraged to break down the problem into **logical steps**, leading to more **accurate** and **explainable** outcomes.

This technique is especially useful when:

✅ The answer depends on **multiple factors**  
✅ **Reasoning and justification** are required  
✅ The goal is to **trace how a conclusion** was reached

**Example:**

**Question:** If a train travels 60 km in 1.5 hours, what is its average speed?

* **Without CoT:**  
  → 40 km/h
* **With CoT:**  
  → The train travels 60 km in 1.5 hours.  
  → Speed is calculated as distance divided by time.  
  → 60 ÷ 1.5 = 40.  
  → **Answer: 40 km/h**

Even for a simple question, CoT makes the logic **transparent** and reduces the chance of mistakes—especially useful for more **complex tasks**.

**🛠️ Task**

You are selecting a **database** for a new application. You have the following requirements:

* Social platform with **millions of users**
* Need to store **profiles, posts**, and **connections** between users
* **High data read speed** required
* Expected **80% read operations**, **20% write operations**
* **Scalability** is important as the user base grows

Using ChatGPT UI, DeepSeek, or any other conversational AI tool, craft a **prompt** that instructs the assistant to apply **Chain-of-Thought (CoT)** reasoning in order to:

🧩 Analyze a given set of project requirements  
🧠 Justify and select the most suitable type of **database** for the project

The AI's reasoning should be **step-by-step** and **well-structured**, clearly showing how the decision was made based on the requirements.

**✅ Requirements**

* Your prompt should use **Chain-of-Thought reasoning**
* The analysis that you got using your prompt should **align with all the requirements** stated in the task description