👨‍💻 Task 4: Effective PR Review using Role Prompting

In this task, we will practice **role prompting** — an AI technique where you direct the model to adopt a specific **expert persona**.

📚 Theory

AI Technique: Role Prompting

Role prompting is an AI technique that directs a model to adopt a specific **persona, character, or expert perspective** when generating a response or performing a task.

By assigning the model a particular role — such as a seasoned **security expert**, an experienced **senior software developer**, a meticulous **technical writer**, or even a specific **fictional character** — we can elicit responses that are more **specialized, contextually relevant**, and aligned with the **nuances of that chosen role**.

🧠 How it Works

When a role is assigned, the AI leverages its vast training data to simulate the **knowledge, language style, and reasoning patterns** associated with that role.

For instance, if prompted to act as a "**cybersecurity analyst**", the model will prioritize:

- Security vulnerabilities
- Threat assessment
- Mitigation strategies

⚠️ *This doesn’t mean the AI becomes that expert — it filters and focuses its output through the lens of the designated persona.*
The prompt serves as a strong contextual anchor, guiding the AI’s generation to stay consistent with that role's typical concerns, priorities, and tone.

💼 Example: Human Resources Scenario

Imagine you have a company-wide communication draft about a new **remote work policy**. Using role prompting, you could ask the AI to review it from multiple angles:

As an HR Director:

- Evaluate clarity, compliance, and company culture impact
- Ensure the tone is authoritative yet supportive
- Check clarity on employee vs. manager responsibilities

As an Employee Engagement Specialist:

- Assess morale and work-life balance implications
- Spot gaps regarding team cohesion or isolation
- Promote empathetic, supportive language

As a Legal Compliance Officer (within HR):

- Verify alignment with labor laws and regulations
- Detect legal ambiguities or omissions
- Ensure legal clarity and precision in language

This technique is **especially useful** when:

- Domain expertise is required for nuanced answers
- A multi-perspective analysis ensures **thoroughness**

🛠️ Task

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You've submitted code for review but received **superficial feedback**.
Now, you want **AI to provide a deeper analysis** from different expert perspectives.

Your task is to **craft a prompt** using the following instructions:

🔸 Choose a code sample:

Select one of the provided implementations of the process UserData function:

- processUserData.java
- processUserData.js
- processUserData.py
- processUserData.cs
- processUserData.go

🔸 Define Expert Roles and Analysis Focus

Your prompt must instruct the AI to adopt **each of the following three expert personas sequentially**:

1. 👨‍💻 **Experienced Developer**
2. 🔐 **Security Engineer**
3. ⚙️ **Performance Specialist**

Each persona should focus on areas relevant to their role.

🔸 Create the Prompt

The prompt must clearly instruct the AI to:

- Take the provided **code snippet** as input
- Analyze it from each of the **three expert perspectives** listed above

- Provide **specific, actionable recommendations** for each perspective — not just generic statements

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📌 Requirements

- The analysis in your result should:
  - ☑ Provide **distinct and relevant feedback** for each of the three roles
  - ☑ Cover the **specified focus areas** for each role
  - ☑ Offer **actionable and specific recommendations**, not just generic statements