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Exercise 1

Activity 1

Part 1

1. The model's responses are becoming more structured and specific with each additional prompt element.

* The first response is a general summary.
* The second response follows the step-by-step instructions to categorize and summarize, but the format is still a bit simple.
* The third response is the most structured, with a title and clear section labels as requested. The content is also becoming more organized within these sections.
* The core information about the pros and cons of plant-based diets remains the same, but how it's presented is changing significantly.

1. The model's response now has a more neutral, balanced tone, as requested by the context element. The title and introduction specifically reflect this goal, using phrases like "A Balanced Look" and "let's take a balanced look."
2. The tone and language have completely changed. The response now uses a high-energy, informal, and encouraging voice ("Hey everyone!," "super cool," "let's get real," "total win") that is appropriate for a "high-energy TV chef" addressing "teenagers."
3. The response is very similar to the previous one, but a key difference is the removal of the phrase "that people get when they're older" in the long-term impacts section, which was a subtle reference to a specific age group. More importantly, it avoids any mention of weight, which was present in earlier, more general responses. The constraints are successfully followed.

Part 2

Observations:

The model's provided answer is very similar to the final response in Part I. The key difference is in the *clarity and robustness* of the prompt itself. By using a tagged structure, the model can more easily and consistently identify each specific instruction. All the elements—role, audience, context, instructions, constraints, and format—are clearly separated and defined. This helps the model process the intent more accurately, reducing the chance of misinterpretation. In this case, the final output is nearly identical to the last one in Part I, which shows that a well-crafted, untagged prompt can still be effective, but the tagged structure provides a more robust and reliable way to ensure all instructions are followed precisely.

Activity 2

**Zero-shot, single-shot, and few-shot prompting**

**Zero-shot:** The model provides a good, but somewhat generic, headline. It's functional and effective.

**Single-shot:** The model's response is slightly more creative, and you can see it's trying to mimic the "rhyming and positive outcome" style of the single example ("Happy paws without spas!" -> "Happy Paws" is echoed in the response).

**Few-shot:** The model's response is the most creative and witty. It clearly picked up on the rhyming pattern and playful tone from all the examples ("spas," "stuff," "snag") and created a headline that fits that specific style ("Flaws"). This demonstrates how providing more examples helps the model better understand the desired style.

### **Prescribe tools, actions, or exclusions**

1. The model correctly identified the need for a tool to find real-time weather data. It then used that tool to provide a specific, accurate, and up-to-date response. This is a good example of how a language model can integrate external information to fulfill a request.
2. The model successfully followed the instructions and the exclusions. The blog post is approximately 200 words and focuses on the general seasonal weather patterns. It avoids discussing extreme weather events, and it doesn't offer any tourist advice or historical data beyond a general description. The response is well-structured and informative while adhering to all the specified negative constraints.

### **Chain of thought**

1. The model explicitly followed the requested steps. It broke down the response into three distinct parts, labeling each step and providing a clear, logical answer. This structured approach makes the output easy to follow and confirms that the model understood and executed the prompt's instructions.
2. By explicitly asking the model to "think step by step," the model provides a meta-level explanation of its reasoning. It first defines the problem, then outlines its research process, explains its selection criteria for destinations and timing, and finally, puts it all together into the itinerary. This "chain of thought" output is much more transparent and provides insight into the model's decision-making process.

**Tree of thought**

This is a perfect example of "tree of thought" prompting. The model first generates multiple different solutions (the three itineraries), then analyzes and evaluates each one (pros and cons), and finally selects the best solution based on a specific criterion ("first-time visitor"). It concludes by providing a detailed plan for the chosen solution. This process demonstrates a much higher level of complex reasoning and structured problem-solving than the previous methods. The response is comprehensive, well-reasoned, and goes beyond a simple, direct answer.