Assignment -2 Cognizant Prompt Engineering Module - Oorja Dorkar

Part 1: Techniques in Prompt Optimization

Concept Check (Multiple Choice Questions):

1. Correct Answer: B) Provide detailed instructions and examples.

2. Correct Answer: B) Guide the AI's tone and perspective by specifying a persona.

Application Task:

Step 1: Write a Basic Prompt

"Write a product description for a smartphone."

Step 2: Refine the Prompt

1. Add Role-Based Instructions:

"Act as a marketing expert and write a product description for a smartphone."

2. Include an Example to Guide the AI:

"Act as a marketing expert and write a product description for a smartphone. For example,

describe the iPhone 15 as having a 6.1-inch Super Retina XDR display, an A16 Bionic chip,

and a 48MP main camera."

3. Specify Tone and Length:

"Act as a marketing expert and write a concise, engaging product description for a

smartphone in 50–75 words. Highlight key features like the display, processor, and camera.

Use a professional yet approachable tone."

Reflection:

Prompt optimization can streamline tasks like writing emails by reducing ambiguity and

improving output quality. For example, instead of writing "Draft an email," a refined prompt

like "Write a polite email to a client requesting a meeting next week. Include availability for

Tuesday and Thursday afternoons and keep the tone professional" ensures the AI generates

a relevant and actionable response. This saves time and reduces the need for revisions.

Part 2: Debugging Prompt Failures

Concept Check (True/False):

1. True: A vague prompt is more likely to produce irrelevant responses.

2. False: Debugging involves refining the input (prompt), not the AI model.

Application Task:

Step 1: Write a Vague Prompt

"Write a story about life."

Step 2: Analyze the AI's Response

Issues with Output:

1. The story lacks focus and direction.

2. It doesn't address any specific theme or message.

Step 3: Refine the Prompt

"Write a 200-word story about the challenges and joys of life from the perspective of a young artist. Include themes like creativity, struggle, and hope."

Step 4: Compare Outputs

• The refined prompt produces a more focused and meaningful story.

Case Study Activity:

Original Prompt:

"Describe a scientific concept in detail."

Issues:

• Too broad; no specific concept or context is provided.

• No guidance on tone, length, or audience.

Revised Prompt:

"Act as a science educator and explain the concept of photosynthesis to high school students. Use simple language, include the key steps, and limit the explanation to 150 words."

Reflection:

A poorly crafted prompt could cause problems in customer service chatbots. For example, a vague prompt like "Answer the customer's question" might lead to irrelevant or incomplete responses. Debugging techniques, such as adding context ("Answer the customer's question about return policies in a friendly tone") and breaking the task into steps ("1. Acknowledge the query, 2. Provide the return policy, 3. Offer assistance"), can resolve this.