**Assignment 06: Assignment and practice of Prompt Engineering to craft effective prompts.**

**Task1:**

Here's a categorization of the prompts.

1. 'Generate a logo for a tech startup using neon colors.'

Category: Visual Prompt

Reasoning: This prompt's primary goal is to create a visual asset. The keywords "generate" and "logo" explicitly request an image as the output, making its classification straightforwardly visual.

2. 'Explain blockchain to a 5-year-old.'

Category: Instructional Prompt

Reasoning: It's an instructional prompt because it gives a clear command ("Explain") that requires the AI to process a complex topic (blockchain) and simplify it for a specific audience (a 5-year-old). The focus is on conveying information accurately but simply, often through analogies.

3. 'You are a UX designer. Suggest improvements to this app layout.'

Category: Role-Playing Prompt

Reasoning: This is a role-playing prompt because it begins by assigning a specific persona ("You are a UX designer"). This instruction shapes the entire response, requiring the AI to provide expert analysis, use industry-specific terminology, and frame its suggestions from a user experience perspective.

**Task 2:**

. Here are three examples of refining vague prompts to make them more effective.

### **1. For Writing**

* **Original:** 'Write about climate change.'
* **Refined:** 'Write a 500-word article for a general audience explaining the impact of melting glaciers on global sea levels. Use a serious but accessible tone and include at least one surprising statistic.'

### **2. For Creative Tasks**

* **Original:** 'Create a character.'
* **Refined:** 'Create a profile for a detective character in a modern-day noir story. She is a former journalist in her late 30s, haunted by a case she couldn't solve. Include her name, a key personality flaw, and her primary motivation.'

### **3. For Business Use**

* **Original:** 'Write a marketing email.'
* **Refined:** 'Write a marketing email to previous customers announcing a 20% off flash sale for the next 48 hours. The tone should be urgent but friendly. Include a clear call-to-action button that says "Shop the Sale".'

**Task 3:**

Here are five original prompts designed for different AI domains.

**1. For ChatGPT (Text-Based) ✍️**

You are a historian specializing in "counterfactuals" or alternate histories. Write a 500-word narrative exploring a world where the Library of Alexandria never burned down. Describe how access to ancient knowledge accelerated technological and social development, focusing on one specific field like medicine or astronomy. The tone should be that of an academic storyteller, both informative and engaging.

**The Flame That Never Came: A World Where Alexandria's Light Endured**

In the shimmering dawn of the 21st century of *our* world, the ruins of the Library of Alexandria serve as a symbol of lost potential—ashes scattered across the centuries. But in an alternate timeline, one fateful fire never ignited. The scrolls were never consumed. And the arc of human history bent not toward centuries of rediscovery, but toward an uninterrupted ascent.

Let us fix our lens on *medicine*, a field profoundly transformed by the continued existence of Alexandria’s intellectual sanctuary.

In this world, the Library of Alexandria evolved into the *Universal Academy*, a proto-university that never ceased collecting, translating, and expanding upon the knowledge of the ancient world. Texts from India, Persia, Greece, China, and Egypt coexisted, cross-pollinating ideas in an unprecedented fusion of Eastern and Western thought.

By 300 CE, Galen’s anatomical theories—so dominant in our timeline—were already being challenged by empirical dissections performed under Egyptian influence. Indian surgical techniques, like those of Sushruta, were not merely admired but actively practiced and refined. With religious prohibitions on dissection relaxed under the academy’s secular charter, Alexandrian physicians began charting the human body with a precision centuries ahead of their time.

By the 9th century in this alternate world, while much of Europe in our timeline remained in the early Middle Ages, scholars in Alexandria had already mapped the circulatory system with remarkable accuracy. Islamic polymaths like Al-Razi and Ibn Sina, whose work was preserved and translated early on, collaborated directly with successors of Hippocrates in a continuous dialogue of healing.

But perhaps the most astonishing divergence was the development of *germ theory*.

In the 11th century, scholars at the Academy, drawing upon Roman sanitation practices, Chinese observations of disease contagion, and new discoveries using primitive lenses, proposed that invisible agents—“*microzōa*”—were responsible for infection. Microscopy, accelerated by optical studies inherited from Egyptian glassmakers and enhanced by Chinese lens crafting, led to the identification of bacteria by the 1200s.

Plagues still occurred, but responses were faster, better informed. Quarantines, sanitation, and early antiseptic practices dramatically reduced mortality rates. The Black Death—so devastating in our timeline—was contained within a decade and never reached Europe’s shores in full force.

The cumulative effect was profound. With medical knowledge accelerating, life expectancy across the Mediterranean basin reached an average of 50 years by the 1300s. More children survived infancy, more minds matured to contribute to society, and population centers grew with unprecedented stability. Cities became incubators not of pestilence, but of innovation.

Socially, the physician's role transformed. No longer mystics or mere attendants to kings, they became civic leaders. Women, too, found a place in medicine earlier than in our world, as the Universal Academy, following certain Hellenistic traditions, admitted female scholars from as early as 200 CE. By the 15th century, women held medical chairs in Alexandria, Istanbul, and even Paris.

In this timeline, the Enlightenment arrived not in the 17th century, but in the 12th.

The Library’s unbroken legacy did not merely preserve knowledge—it compounded it. Medicine, once a mixture of superstition and scattered truths, became a science centuries ahead of schedule. The world it shaped was not

utopian, but it was undeniably wiser, healthier, and better prepared for the challenges of human frailty.

**2. For DALL·E (Image-Based) 🎨**

Create a surrealist, wide-angle digital art piece depicting a giant, bioluminescent jellyfish floating gracefully through the central nave of a grand, abandoned Gothic cathedral. The cathedral's stained glass windows should be visible, with moonlight streaming through them, illuminating dust particles in the air and casting intricate patterns on the stone floor below. The jellyfish's tentacles should be iridescent and gently brush against the pews.



**3. For SORA (Video-Based) 🎬**

Generate a 25-second, hyper-realistic video clip shot from a first-person perspective. The scene begins with the viewer sitting on a vintage train with polished wood interiors, moving through a lush, green mountain pass in the Swiss Alps. The viewer raises a vintage film camera to their eye, and the perspective shifts to looking through the camera's viewfinder, focusing on a distant waterfall cascading down the mountainside as the train glides smoothly along the tracks.

<https://pollo.ai/v/cmf1df8sh06y7b2nprfou2lrs?source=share>

"C:\Users\asus\Downloads\Text to video 丨 Generate a 25-second, hyper-realistic video clip shot from a fir.mp4"

**4. For Coding or Logic 💻**

Write a Python function called find\_first\_non\_repeating\_char that takes a single string as an argument. The function should efficiently parse the string and return the first character that does not repeat itself anywhere else in the string. If all characters in the string repeat, the function should return None. The solution should be case-sensitive and optimized for performance.

Here’s an efficient Python implementation using a **single pass count with collections.Counter** and then checking order in the original string:

from collections import Counter

def find\_first\_non\_repeating\_char(s: str):

# Count frequency of each character

freq = Counter(s)

# Find first char with count == 1

for char in s:

if freq[char] == 1:

return char

return None

### **How it works:**

1. **Counter(s)** counts all characters in **O(n)** time.
2. The second loop checks characters in original order, returning the **first non-repeating** one.
3. If none exist, it returns None.

### **Example usage:**

print(find\_first\_non\_repeating\_char("swiss")) # Output: 'w'

print(find\_first\_non\_repeating\_char("aabbcc")) # Output: None

print(find\_first\_non\_repeating\_char("Stress")) # Output: 't' (case-sensitive)

⚡ **Performance:**

* Time complexity: **O(n)**
* Space complexity: **O(1)** (since there are only 256 possible ASCII chars, or bounded by Unicode range).

**5. For Education or Training 🎓**

Design a concise training module for new remote employees on the topic of "Effective Digital Communication." The output should be structured with three main sections: Email Etiquette, Instant Messaging Best Practices, and Video Conferencing Professionalism. For each section, provide three clear, actionable bullet points. Conclude the entire module with a single "Golden Rule" that summarizes the core principle of professional digital communication.

# **Effective Digital Communication – Training Module**

### **1. Email Etiquette**

* **Use clear subject lines**: Summarize the purpose in a few words so the recipient understands immediately.
* **Keep it professional and concise**: Avoid slang, write in full sentences, and get to the point quickly.
* **Proofread before sending**: Check grammar, tone, and attachments to avoid mistakes.

### **2. Instant Messaging Best Practices**

* **Be respectful of availability**: Check status indicators and avoid expecting instant replies outside work hours.
* **Keep messages short and purposeful**: Use messaging for quick clarifications, not lengthy discussions.
* **Use emojis sparingly**: They can add tone, but overuse may appear unprofessional.

### **3. Video Conferencing Professionalism**

* **Test your setup beforehand**: Ensure camera, microphone, and internet connection work smoothly.
* **Maintain a professional environment**: Dress appropriately, use neutral backgrounds, and minimize distractions.
* **Engage actively**: Mute when not speaking, listen attentively, and make eye contact through the camera.

## **🌟 Golden Rule:**

**Communicate with clarity, respect, and professionalism—just as you would in person.**