

Experimenting with Prompts



Estimated time needed: 40 minutes

Introduction

Large language models (LLMs) are pre-trained on vast amounts of data to generate novel content, including text, images, and video. To generate the desired response, you should feed the input to a model as a prompt. It is important to provide a context-based, clear, and precise prompt to guide the model and get the desired output. The process of designing effective prompts to generate better and desired responses is called prompt engineering.

In this lab, you will learn the basics of prompt engineering and experiment with simple prompts to control how a model interprets and generates desired and coherent responses.

Learning objectives

After completing this lab, you will be able to:

1. Design a prompt structure to write concise prompts based on requirements
2. Write unambiguous and context-based prompts to generate the desired output
3. Write prompts in different formats, such as questions, statements, and instructions

Let's get started prompting and experimenting with foundation models.

Before you start prompting

Before beginning the exercise, you must set up the AI classroom and know the generative AI workspace.

Step 1

As the first step, you must set up your AI classroom for better learning experience.

- Name the chat
- Choose the foundation model

Step 2

Know your workspace to prompt the foundation model-based chatbot better.

- Use prompt instructions
- Type your message
- Manage your chat
- Delete the chat from history

Step 3

Identify the task to be accomplished through a prompt.

Before you draft a prompt, you should clearly understand the task that a model needs to perform. For example, do you want the model to generate a story or a social post, or do you want the model to summarize text or classify text by identifying sentiments?

Step 4

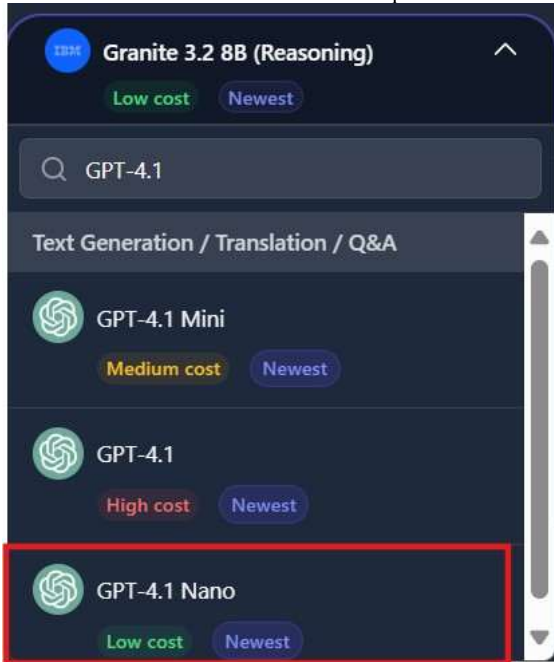
Select the model.

Before you start designing prompts, it is important to understand the model you will leverage to accomplish the tasks.

In this exercise, you will use the foundation model **gpt-4o-mini** to experiment with the prompts.

OpenAI's gpt-4o-mini is an advanced foundation large language model. As a powerful tool for generating coherent and contextually relevant text, the **gpt-4o-mini** foundation model can be used for various applications, including chatbots, virtual assistants, and content generation. It can be applied for translating languages, answering questions in an informative way, and completing tasks such as writing poems, code, scripts, musical pieces, emails, and letters.

Select the **GPT-4.1 Nano** model from the drop-down list in the upper section of the right pane for this exercise.



Note: Though the drop-down list defaults to some other model, you can select an alternative foundation model.

Exercise 1: Prompt structure

In this exercise, you will experiment to create a prompt structure for drafting prompts for converting the given text from English to Spanish.

Designing a prompt structure to convert text from English to Spanish

1. Let us propose a prompt structure that will help you write concise text prompts. You can provide this in the **PROMPT INSTRUCTIONS** field.

[Description of task] [Data on which task needs to operate] [Optional-sample example of response]

You can copy the above example and paste it into the required field.

PROMPT INSTRUCTIONS
🔒

[Description of Task] [Data on which task needs to operate] [Optional-sample example of response]

2. Let's design a prompt based on the given structure.

- **Description of task:** Translate English statement into Spanish.
- **Data on which task needs to operate:** Infusing Generative Artificial Intelligence into business-driven operations is need of an hour.
- **Example:** "My name is Sujan." in Spanish is "Mi nombre es sujan."

3. Write the prompt in the **Type your message** field.



Translate English Statement into Spanish: "Infusing Generative Artificial Intelligence into business-driven operations is need of an hour." (For exam

You can copy the above example and paste it in the required field.

Translate English Statement into Spanish: "Infusing Generative Artificial Intelligence into business-driven operations is need of an hour." (For example, "My name is Sujan." in Spanish is "Mi nombre es sujan.")

Start chat

4. Click **Start Chat** to get the chatbot response as a result in the middle part of the right pane.


 **GPT-4.1 Nano** 


Low cost


Newest

Chat


Freeform

PROMPT INSTRUCTIONS 




Total Cost 


0.01 cents

Total Wait Time 

1.55 seconds

 Higher cost models provide more advanced responses but will consume your available usage more quickly.

Translate English Statement into Spanish: "Infusing Generative Artificial Intelligence into business-driven operations is need of an hour." (For example, "My name is Sujan." in Spanish is "Mi nombre es sujan.")

 La integración de la inteligencia artificial generativa en las operaciones impulsadas por los negocios es una necesidad del momento.

1.55 seconds

Exercise 2: Unambiguous prompts

Let's learn how adding context-specific input to the prompt influences the output. You need to design a prompt to **get information about the relevance of generative AI applications in the content marketing sector.**

Creating an unambiguous prompt

1. You can create a new chat and name it as per the context, or you can reset an existing chat.

 **Experimenting with prompts -2** 

New

Compare Models



2. Enter the prompt in the **Type your message** field.

Tell me about the relevance of generative AI in the content marketing sector

3. Click **Start Chat** and observe the generated response, similar to the screenshot below.

The screenshot shows the OpenAI Playground interface. At the top, it says "Experimenting with prompts" with a pencil icon. There are buttons for "New", "Compare Models", and a toggle switch. Below this, the selected model is "GPT-4.1 Nano" with a lock icon and labels "Low cost" and "Newest". To the right, there are buttons for "Chat" and "Freeform". Below the model selection, there is a "PROMPT INSTRUCTIONS" field with a lock icon and a dropdown arrow. Below that, the "Total Cost" is "0.01 cents" and the "Total Wait Time" is "3.14 seconds". A warning message states: "Higher cost models provide more advanced responses but will consume your available usage more quickly." The prompt entered is "Tell me about the relevance of generative AI in the content marketing sector". The response from GPT-4.1 Nano is as follows:

Generative AI has become increasingly significant in the content marketing sector due to its ability to automate and enhance various content creation processes. It enables marketers to produce high-quality, personalized content at scale, improving engagement and efficiency.

Key Relevance of Generative AI in Content Marketing:

- **Content Creation:** AI models can generate articles, social media posts, product descriptions, and more, reducing the time and effort required from human creators.
- **Personalization:** Generative AI can tailor content to individual user preferences, increasing relevance and engagement.


► Click here for full output of the result we got. The output produced at your end may be different.

4. Let's see how we can make the response more coherent by adding context to the prompt.

Enter the following prompt in the **Type your message** field.

Explain the key applications of generative AI in the content marketing sector

5. Click **Start Chat** and observe the generated response, similar to the screenshot below.



GPT-4.1 Nano

Low cost

Newest

Chat

Freeform

PROMPT INSTRUCTIONS


Total Cost

0.03 cents

Total Wait Time

6.78 seconds

Explain the key applications of generative AI in the content marketing sector



The key applications of generative AI in the content marketing sector are diverse and impactful. They enable marketers to streamline workflows, enhance personalization, and scale content production effectively.

Key Applications of Generative AI in Content Marketing:

- **Automated Content Creation:** Generating articles, blog posts, social media updates, product descriptions, and email campaigns with minimal human intervention.
- **Personalized Content Generation:** Tailoring content to individual customer preferences and behaviors to increase engagement and conversion rates.
- **SEO and Content Optimization:** Assisting in keyword research, meta descriptions, and content structuring to improve search engine rankings.
- **Creative Ideation:** Brainstorming new topics, headlines, and campaign ideas based on trending data and audience insights.

► Click here for full output of the result we got. The output produced at your end may be different.

6. Review and compare the difference in the response generated by the initial prompt and the modified prompt that included context and specific input.

Exercise 3: Prompts in different formats

Prompts can be presented in different formats, such as questions, statements, or instructions. Let's experiment with how prompts in different formats can yield different results.

Experimenting with prompts in different formats

1. You can create a new chat and name the chat as per the context, or you can reset an existing chat.
2. First, let's write a prompt in question format. Enter the prompt in the **Type your message** field.

What are the benefits of water reservoirs in a detailed paragraph?

You can copy the above example and paste it into the required field.

3. Click **Start Chat** and observe the generated response, similar to the screenshot below.

What are the benefits of water reservoirs in a detailed paragraph?



Water reservoirs offer numerous benefits that are vital for sustainable water management and environmental health. They serve as crucial storage systems that ensure a reliable supply of water for domestic, agricultural, industrial, and recreational purposes, especially during periods of drought or low rainfall. Reservoirs help in flood control by capturing excess rainfall and releasing it gradually, thereby protecting communities and ecosystems from flood damage. Additionally, they support hydropower generation, contributing to renewable energy production. Reservoirs also play a key role in maintaining ecological balance by providing habitats for various aquatic species and supporting biodiversity. Furthermore, they facilitate water quality management by allowing sedimentation and filtration processes that improve water clarity and purity. Overall, water reservoirs are essential infrastructure that enhance water security, support economic development, and promote environmental sustainability.

4. Next, write the prompt in statement format. Enter the prompt in the **Type your message** field.

Discuss the benefits of utilizing water reservoirs.

You can copy the above example and paste it into the required field.

5. Click **Start Chat** and observe the generated response, similar to the screenshot below.

Discuss the benefits of utilizing water reservoirs.




Water reservoirs provide a multitude of benefits that are essential for sustainable water management and environmental conservation. They act as reliable storage systems, ensuring a steady supply of water for various needs such as household use, agriculture, industry, and recreation, particularly during dry seasons or droughts. Reservoirs play a critical role in flood mitigation by capturing excess rainfall and releasing it gradually, thus protecting communities and ecosystems from flood damage. They also contribute to renewable energy production through hydropower, supporting clean energy initiatives. Additionally, reservoirs help maintain ecological balance by creating habitats for aquatic and terrestrial species, supporting biodiversity. They aid in water quality improvement by allowing sedimentation and natural filtration, which enhances water clarity and purity. Overall, utilizing water reservoirs strengthens water security, promotes economic growth, and supports environmental sustainability, making them vital components of modern infrastructure.

6. Further, write the prompt in an instruction format. Enter the prompt in the **Type your message** field.

List the top five benefits of water reservoirs.

You can copy the above example and paste it into the required field.

7. Click **Start Chat** and observe the generated response, similar to the screenshot below.



The screenshot shows a chat interface with a dark blue background. At the top right, there is a prompt: "Discuss the benefits of utilizing water reservoirs." Below this, on the left, is a green circular icon with a white swirl. To the right of the icon, the text reads: "Utilizing water reservoirs offers numerous benefits across environmental, economic, and social dimensions. Here are some key advantages:" followed by a section header "Benefits of Water Reservoirs". Below the header is a bulleted list of seven items, each starting with a bolded term followed by a colon and a description. The items are: "Water Storage and Supply Stability", "Hydropower Generation", "Flood Control", "Irrigation Support", "Recreation and Tourism", "Environmental Benefits", and "Water Quality Improvement". At the bottom of the list, there is a concluding sentence: "Overall, water reservoirs are vital infrastructure components that contribute to sustainable resource management and resilience against climate variability."

Utilizing water reservoirs offers numerous benefits across environmental, economic, and social dimensions. Here are some key advantages:

Benefits of Water Reservoirs

- **Water Storage and Supply Stability:** Reservoirs store large quantities of water, ensuring a reliable supply for domestic, industrial, agricultural, and municipal use, especially during dry seasons or droughts.
- **Hydropower Generation:** Many reservoirs are used to generate hydroelectric power, providing a renewable and clean energy source.
- **Flood Control:** Reservoirs help regulate river flow, reducing the risk of flooding downstream during heavy rainfall or storm events.
- **Irrigation Support:** They supply water for agricultural irrigation, enhancing crop yields and supporting food security.
- **Recreation and Tourism:** Reservoirs often serve as sites for recreational activities such as boating, fishing, and tourism, contributing to local economies.
- **Environmental Benefits:** Properly managed reservoirs can support aquatic ecosystems and maintain environmental flows.
- **Water Quality Improvement:** Reservoirs can help in sedimentation control and improve water quality by allowing sediments to settle.

Overall, water reservoirs are vital infrastructure components that contribute to sustainable resource management and resilience against climate variability.

8. You can review and analyze the response generated by each prompt to identify which prompt format works best to accomplish the desired task. For example, the instruction format would work well for a summarization task. For text completion, the statement format would be suitable. When you want to extract a specific entity from a statement, the question format would be most suitable.

Exercise 4: Limit the output length

For a few text generation tasks, such as generating tweets or text messages for a social media post, there are limitations on the number of words. Let's experiment with a prompt that instructs the model to generate a response with a specific number of words or to generate a specific number of statements.

Generating a response of a specific number of words or statements

1. You can create a new chat and name the chat as per the context, or you can reset an existing chat.
2. Enter the prompt in the **Type your message** field.

Create an announcement for starting a new job at ABCTech company as a lead data scientist in a tweet-length message.

You can copy the above example and paste it into the required field.

3. Click **Start Chat** and observe the generated response, similar to the screenshot below.

Create an announcement for starting a new job at ABCTech company as a lead data scientist in a tweet-length message.



Excited to announce that I've joined ABCTech as the Lead Data Scientist! Looking forward to innovating and driving impactful insights with an amazing team. Here's to new beginnings! 🚀 #NewJob #DataScience #ABCTech

Try it yourself

Exercise

You can try experimenting with prompts regarding the following tasks:

1. An academic researcher uses a text generation model to gather information on the latest AI technologies in education.
2. A content writer wants to create a captivating post about a new smartphone, with a character limit of 280.
3. Get recommendations on the best places to visit in your city.

Summary

Congratulations! You just completed the hands-on lab about experimenting with prompts.

In this lab, you experimented with designing a prompt structure that helps to write concise prompts. You learned how to write a concise, unambiguous prompt to generate the desired response. You also experimented with different formats of prompts, such as questions, statements, and instructions. You learned to select the specific format based on the requirements and desired response.

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