

Hands-on Lab: Text Generation in Action

Estimated time needed: 30 minutes

Welcome to the hands-on lab text generation in action!

What is text generation in generative AI?

Generative AI's greatest potential is to generate context-based and captivating content, leading to limitless possibilities for intelligent text generation.

Generative AI-powered models and tools can be used to generate a wide range of text formats, such as articles, blog posts, social media posts, product descriptions, marketing copy, language translation, conversational interactions, and image descriptions, among many more.

In this lab, you will look at the two most popular text generation tools, OpenAI's ChatGPT and Google's Gemini and explore how to use them for text generation and text summarization.

Learning Objectives

After completing this lab, you will be able to:

- Explore the text generation capability of generative AI
- Write emails using ChatGPT
- Convert the unit measurement using ChatGPT
- Summarize text using Google's Gemini

ChatGPT overview

ChatGPT is an AI chatbot of OpenAI based on GPT's large language models. Generative AI technology understands your natural language prompt and then uses the context to build the response and generate the output.

Exercise 1: Write an email using OpenAI's ChatGPT

Writing an effective email for the required subject and context requires cognitive attention, as you must consider the affirmative language, response aligned with the trail mail, grammar, and so on.

Step 1: Log in steps and the home page

1. Launch [ChatGPT](https://chat.openai.com/) and sign in.

Note: If you cannot access ChatGPT by clicking on the link, copy the following URL and paste it into a browser.

<https://chat.openai.com/>

2. Once launched, you must sign up or login.

Note: You can create a free account on ChatGPT and use GPT-3.5 features for free.




Welcome to ChatGPT

Log in with your OpenAI account to continue

Log in

Sign up

- a. To sign up, you will be required to enter your email ID and password. You will receive an automated verification email. After you click verification, you will need to enter your personal details and follow the steps to complete the sign up on your first login.
- b. After sign up, you will reach the login page, as shown below.




Welcome back


Continue


Don't have an account?

Sign up

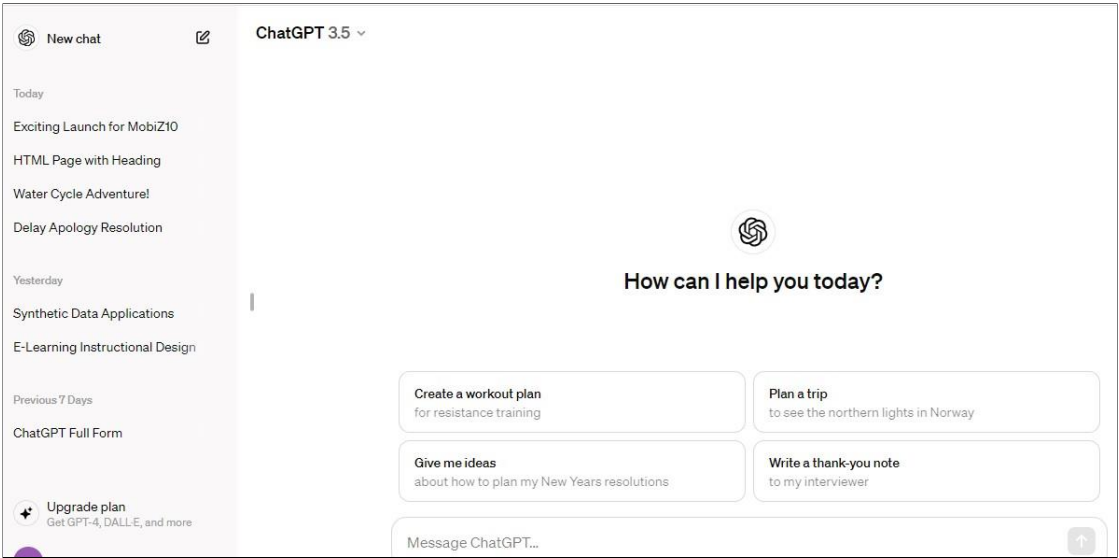
OR

 Continue with Google

 Continue with Microsoft Account

 Continue with Apple

3. After login, you will view the OpenAI chatbot platform, ChatGPT, as shown below.

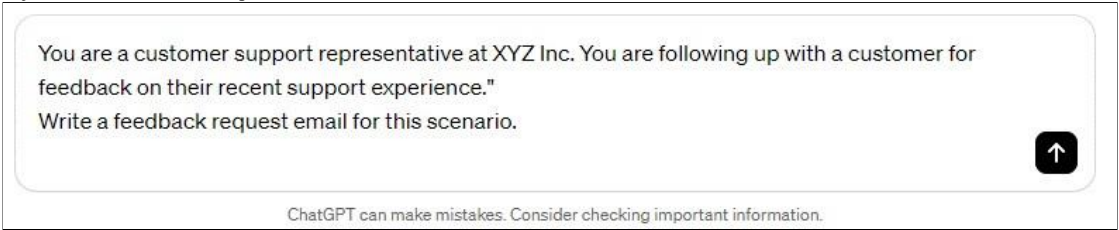


Step 2: Generate the email using a prompt

- 1. Consider a context for your desired email requirement.
- 2. Write the prompt or statement in the **send a message** field at the bottom of the ChatGPT screen.
For example,

"You are a customer support representative at XYZ Inc. You are following up with a customer for feedback on their recent support experience." Write a feedback request email for this scenario.

Note: For better results, include specific details about the subject and context of the required email.



- 3. Now, click the arrow sign or press the enter key to send the message to the chatbot.
- 4. You will receive the textual response from ChatGPT for the desired scenario, as shown below.



ChatGPT

Subject: We Value Your Feedback on Your Recent Support Experience

Dear [Customer's Name],

I hope this email finds you well.

I wanted to personally reach out to you to express our gratitude for choosing XYZ Inc. for your recent support needs. At XYZ Inc., we strive to provide exceptional service to all our customers, and your satisfaction is our top priority.

We understand that your time is valuable, and we genuinely appreciate the opportunity to assist you. Your feedback is incredibly important to us as it helps us to continuously improve our services and ensure that we meet and exceed your expectations.

We would be grateful if you could take a few moments to share your thoughts on your recent support experience with us. Your input will enable us to identify any areas where we can enhance our services and better serve you in the fut



Please feel free to provide any comments, suggestions, or concerns you may have regarding your interaction with our support team. Your honest feedback will help us to tailor our services to better meet your needs.

Thank you once again for choosing XYZ Inc. for your support needs. We truly value your business and look forward to hearing from you soon.

Best regards,

[Your Name]

Customer Support Representative

XYZ Inc.



5. You can validate the content per the context, copy the generated email, and update the details as required.

6. You can copy-paste the generated output and tweak it further as required.

Note: You can continue to interact with the ChatGPT to dive deeper and further as long as you like or require.

Step 3: Try yourself

Now, you must try generating emails for different scenarios using ChatGPT to explore the text generation capabilities of generative AI models and tools.

For example,

1. Email your professor to request for a meeting

"I am a postgraduate student at XYZ University. Write an email to my professor to request for a meeting to review my seminar before presentation.

Subject: Request for Meeting to Review Seminar Presentation

Dear Professor [Last Name],

I hope this email finds you well. I am writing to kindly request a meeting with you to review my upcoming seminar presentation on [Seminar Topic].

As the presentation date approaches, I want to ensure that my work aligns with the required standards and effectively communicates the key points. Your guidance would be invaluable in refining my content and addressing any areas that may need improvement.

Please let me know a convenient time for you, and I will be happy to adjust my schedule accordingly. I appreciate your time and support.

Thank you in advance for your consideration.

Best regards,

[Your Full Name]

[Your Program, e.g., MSc in XYZ]

XYZ University

[Your Contact Information]



2. Write an email to follow up on a job application

"I am a job applicant at ABC Company. Write an email to follow up on a job application."



ChatGPT can make mistakes. Check important info.

Subject: Follow-Up on Job Application for [Job Title]

Dear [Hiring Manager's Name],

I hope this message finds you well. I recently submitted my application for the [Job Title] position at ABC Company on [date of application], and I wanted to follow up to express my continued interest in the opportunity to join your team.

I am very excited about the prospect of contributing to ABC Company, particularly in [mention a specific way your skills/experience align with the role or company goals]. I would greatly appreciate any updates regarding the status of my application or the next steps in the hiring process.

Thank you for taking the time to consider my application. Please don't hesitate to reach out if you need any additional information from my side. I look forward to the possibility of discussing my qualifications further.

Best regards,

[Your Full Name]

[Your Contact Information]

[Optional: LinkedIn Profile or Portfolio Link]



3. Send out an internal invitation to all your employees for a company event

I am a Project Manager at EBI PLC. Send out an internal invitation to all employees for a company event. |



ChatGPT can make mistakes. Check important info.

Subject: You're Invited! Join Us for [Event Name]

Dear Team,

I'm excited to announce that we'll be hosting a [type of event, e.g., "team-building activity," "company celebration," etc.] to [brief purpose of the event, e.g., "recognize our achievements this quarter," "foster collaboration across teams," etc.]. We'd love for you to join us and make this event a success!

Here are the details:

- **Event:** [Event Name or Description]
- **Date:** [Event Date]
- **Time:** [Event Time]
- **Location:** [Event Location, e.g., "Conference Room A" or "Central Park Pavilion"]
- **Dress Code:** [Optional, e.g., "Casual" or "Business Formal"]

This is a fantastic opportunity for us to connect, celebrate, and enjoy time together as a team.

[Optional: Mention any highlights, e.g., "There will be games, refreshments, and a raffle draw!"]

Please RSVP by [RSVP Deadline] to [Contact Person or RSVP Link/Email]. Your participation means a lot, and we hope to see everyone there!

Feel free to reach out if you have any questions or suggestions.

Best regards,





[Your Full Name]

Project Manager

EBI PLC

4. Email your team reminding them about delays on a regular project update

I am a Case Team Leader at XYZ Research Center. Write an Email to my team reminding them about delays on a regular project update. |



ChatGPT can make mistakes. Check important info.

Subject: Reminder: Delays in Regular Project Update

Dear Team,

I hope this email finds you well. I wanted to bring to your attention that there have been delays in submitting the regular updates for [Project Name]. As a result, we're falling behind on tracking our progress effectively, which could impact our overall timeline and deliverables.

I kindly remind everyone to ensure that updates are submitted by the scheduled deadlines moving forward. For this week, please make it a priority to send your updates by [specific date and time]. If there are any challenges or reasons for the delay, feel free to reach out to me directly so we can address them together.




Your cooperation and prompt action on this matter are greatly appreciated. Let's stay on track and keep the momentum going.


Thank you for your attention to this!

Best regards,
[Your Full Name]
Case Team Leader
XYZ Research Center

5. Email your customers announcing your new product launch

I am a customer support representative at ABC Ltd. Write an Email to my customers announcing my new product launch.





ChatGPT can make mistakes. Check important info.

Subject: Exciting News! Introducing Our New [Product Name]

Dear [Customer's Name],

We're thrilled to announce the launch of our latest innovation, [Product Name], designed to [briefly explain the product's key benefit or purpose, e.g., "make your daily tasks easier" or "bring you a whole new level of convenience"].

Here's what makes [Product Name] special:

- [Highlight key feature/benefit #1]
- [Highlight key feature/benefit #2]
- [Highlight key feature/benefit #3]

[Optional: Add a compelling visual or demo link here, e.g., "Check out our video demo!" or "See it in action here: [link]."]

Available Now: You can explore [Product Name] and place your order today at [link to website/shop]. As a valued customer, we're offering an exclusive [discount/promotion] for early adopters—use the code [PROMO CODE] at checkout by [date].

We're excited to hear what you think! If you have any questions or would like assistance, don't hesitate to reach out to us.

Thank you for being a part of the ABC Ltd. family. We can't wait for you to experience [Product Name]!

Best regards,
[Your Full Name]
Customer Support Representative
ABC Ltd.
[Your Contact Information]

Note: You must validate the responses generated through ChatGPT for factual accuracy and use the technology ethically and responsibly.

Exercise 2: Convert a unit measurement using ChatGPT

Testing ChatGPT's computational abilities are essential for practicality, education, problem-solving, convenience, versatility, proof of concept, and user engagement. It ensures the AI can effectively perform tasks like math, unit conversion, and problemsolving, making it more valuable in real-world applications and building user trust.

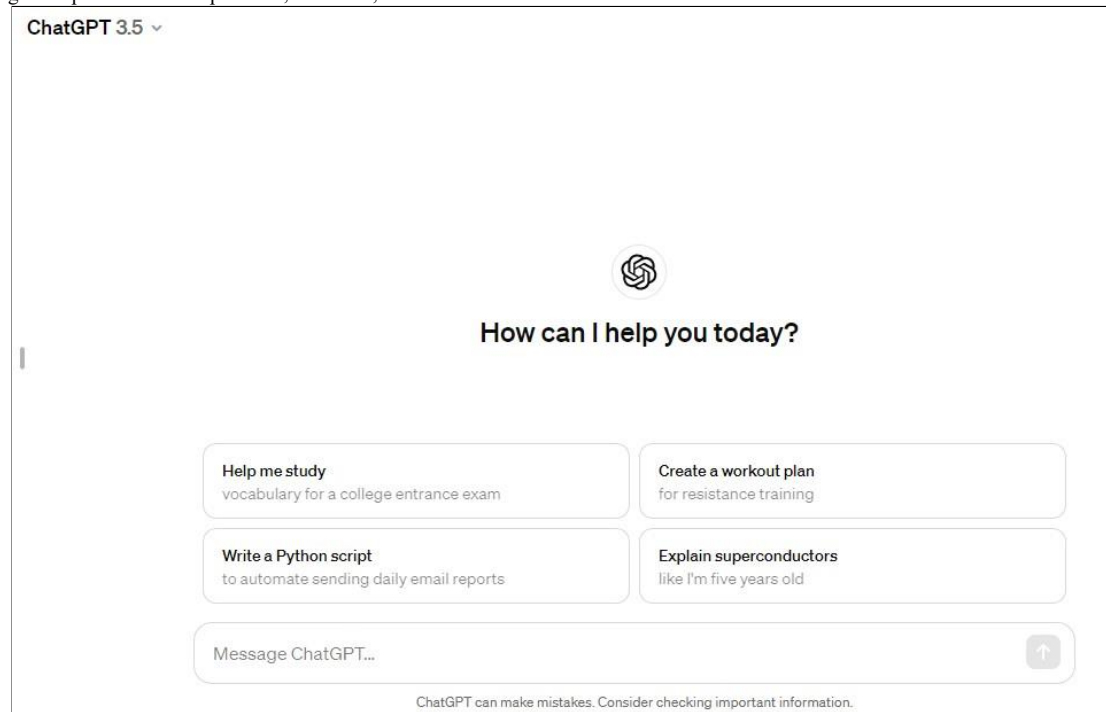
Step 1: Log in steps and the home page

1. Click [ChatGPT](#) to launch it.

Note: If you cannot access ChatGPT by clicking on the link, copy the following URL and paste it into a browser.

`https://chat.openai.com/`

2. Since you are already logged in, you can view the homepage of OpenAI's chatbot platform, ChatGPT, as shown below.



Step 2: Convert the unit measurement

1. Consider a context to convert one unit measurement into another.
2. Write the prompt or statement in the **send a message** field at the bottom of the ChatGPT screen.
For example,

"You have a recipe that shows 500 grams of flour, but your kitchen scale measures in ounces. You need to convert the weight of flour from grams to ounces."
Convert 500 grams to ounces and provide the result based on the appropriate conversion factor.

Note: For better results, include specific details about the subject and context of the required computation.

You have a recipe that shows 500 grams of flour, but your kitchen scale measures in ounces. You need to convert the weight of flour from grams to ounces.”
Convert 500 grams to ounces and provide the result based on the appropriate conversion factor.



ChatGPT can make mistakes. Consider checking important information.

3. Now, click the arrow sign or press the enter key to send the message to the chatbot.

4. You will receive the textual response from ChatGPT for the desired scenario, as shown below.



You

You have a recipe that shows 500 grams of flour, but your kitchen scale measures in ounces. You need to convert the weight of flour from grams to ounces.”
Convert 500 grams to ounces and provide the result based on the appropriate conversion factor.



ChatGPT

To convert grams to ounces, you can use the conversion factor that 1 ounce is approximately equal to 28.35 grams.

So, to convert 500 grams to ounces:

$$500 \text{ grams} \times \frac{1 \text{ ounce}}{28.35 \text{ grams}}$$

Performing the calculation:

$$500 \times \frac{1}{28.35} \approx 17.64 \text{ ounces}$$

Therefore, 500 grams is approximately 17.64 ounces when rounded to two decimal places.



5. You can validate the content per the context, copy the generated response, and use the details as required.

6. You can copy-paste the generated output and tweak it further as required

Note: You can continue to interact with the ChatGPT to dive deeper and further as long as you like or require.

Step 3: Try yourself

Now, you must try different prompts to test the computational capabilities of ChatGPT for different scenarios.

For example,

1. Find the area of a triangle

"You have an equilateral triangle with side of 5 cm"
Find the area of this triangle showing the formula.



To calculate the area of an equilateral triangle, we use the formula:

$$\text{Area} = \frac{\sqrt{3}}{4} \times \text{side}^2$$

Given:

- Side = 5 cm

Calculation:

$$\text{Area} = \frac{\sqrt{3}}{4} \times (5)^2$$

$$\text{Area} = \frac{\sqrt{3}}{4} \times 25$$

$$\text{Area} = \frac{25\sqrt{3}}{4} \text{ cm}^2$$

If you'd like, we can approximate the result by substituting $\sqrt{3} \approx 1.732$:

$$\text{Area} \approx \frac{25 \times 1.732}{4}$$

$$\text{Area} \approx \frac{43.3}{4}$$

$$\text{Area} \approx 10.83 \text{ cm}^2$$

Final Answer:

$$\text{Area} = \frac{25\sqrt{3}}{4} \text{ cm}^2 \text{ or approximately } 10.83 \text{ cm}^2.$$



2. Calculate the average of five random numbers

Calculate the average of five random numbers showing a formula. |



ChatGPT can make mistakes. Check important info.



To calculate the average of five random numbers, the formula is:

$$\text{Average} = \frac{\text{Sum of all numbers}}{\text{Total number of values}}$$

Steps:

1. Generate five random numbers (let's assume they are a, b, c, d, e).
2. Calculate their sum: $a + b + c + d + e$.
3. Divide the sum by 5.

Let me generate five random numbers and calculate the average for you.

Generated Numbers:

1. 57.64
2. 62.09
3. 17.51
4. 99.09
5. 87.86

Calculation:

- Sum of numbers:

$$57.64 + 62.09 + 17.51 + 99.09 + 87.86 = 324.18$$

- Average:

$$\text{Average} = \frac{324.18}{5} = 64.84$$

Final Answer:

The average of these five random numbers is approximately **64.84**. [~]



3. Compute the simple interest for a principal amount and rate of interest

Compute the simple interest for a principal amount and rate of interest. Give an example using your own values.



To calculate **Simple Interest (SI)**, the formula is:

$$SI = \frac{P \times R \times T}{100}$$

Where:

- P = Principal Amount
- R = Rate of Interest per annum
- T = Time in years

Example:

Let's assume the following values:

- $P = 10,000$ units
- $R = 5\%$
- $T = 3$ years

Now, compute the simple interest:

$$SI = \frac{10,000 \times 5 \times 3}{100}$$

$$SI = \frac{150,000}{100} = 1,500 \text{ units}$$

Final Answer:

The simple interest for a principal of 10,000 units at a rate of 5% per annum over 3 years is 1,500 units.



[Optional] Exercise: Summarize text using Google's Gemini

Gemini may not be available in all countries, so this exercise is optional.

Summarization is vital to drawing meaningful and crisp information from long textual components. This helps focus on the relevant parts and eliminate irrelevant or less important text. Writing a summary of long paragraphs or documents can be a time-consuming process. Based on NLP algorithms, generative AI's LLMs simplify text summarization for you. It speeds up the text summarization of long texts and documents and includes key points and context from the source text.

In this exercise, you will examine the text summarization capability of generative AI using Gemini.

What is Gemini?

Gemini is a conversational generative AI service that generates various text formats. It is a collaboration tool that harnesses the power of the web. Powered by Google's advanced language models, PaLM, short for Pathways Language Model, pulls information from knowledge across the internet to respond to prompts.

Step 1: Log in steps and the home page

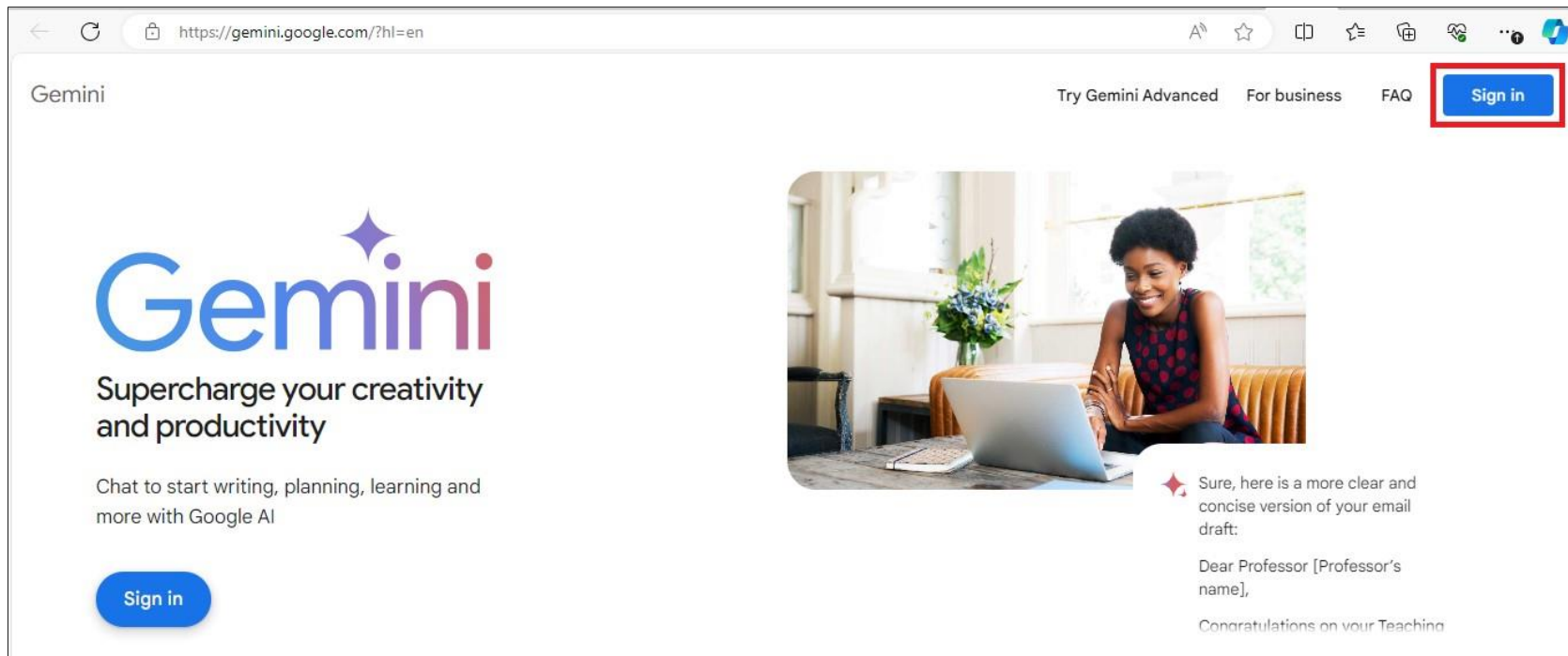
1. Click [Gemini](#) to launch it.

Note: If you cannot access Gemini by clicking on the link, copy the following URL and paste it into a browser.

<https://gemini.google.com/?hl=en>

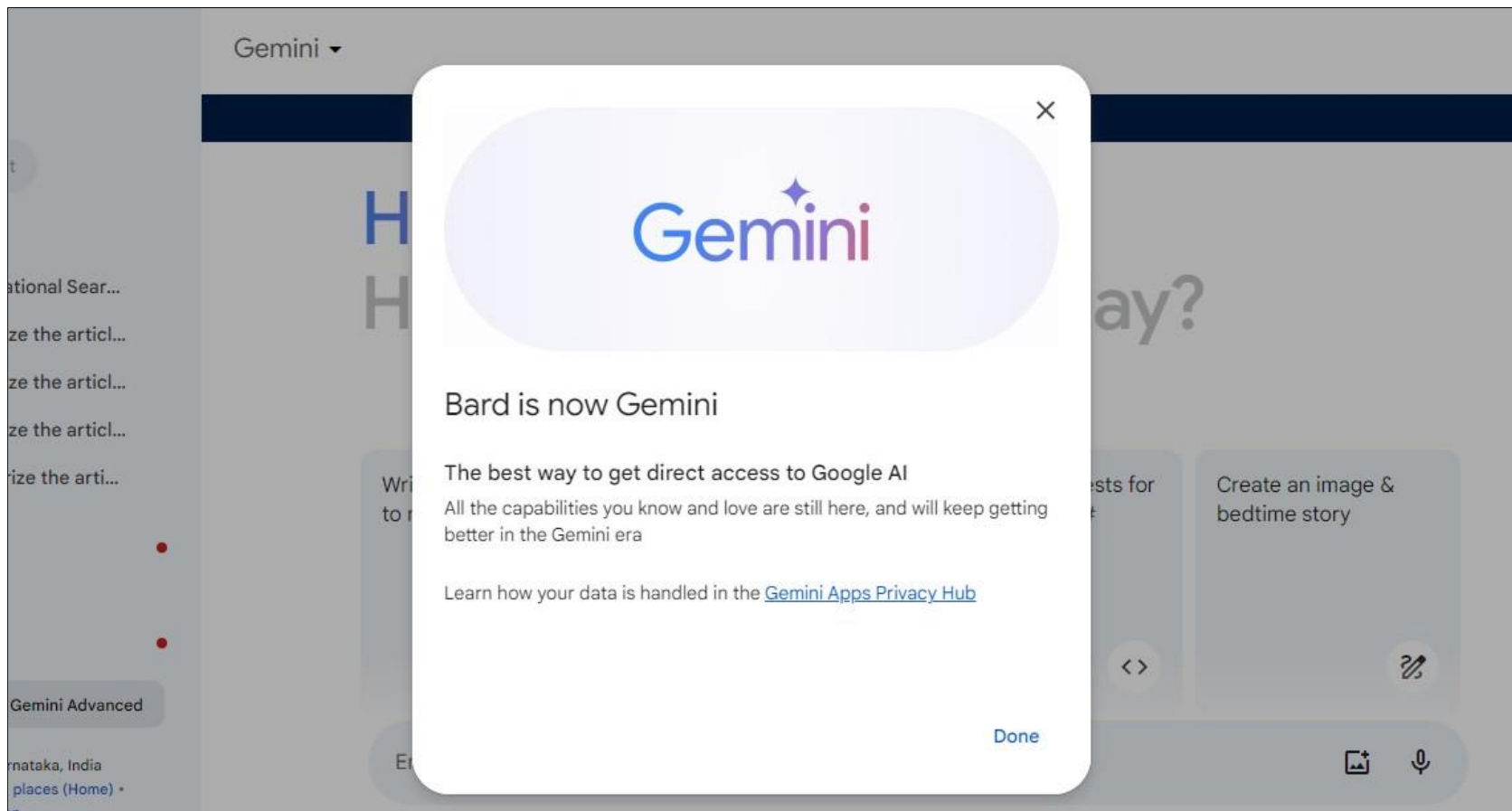
2. Once launched, you must sign up or login.

Note: You can use your existing Gmail account or create a free account on Gemini.

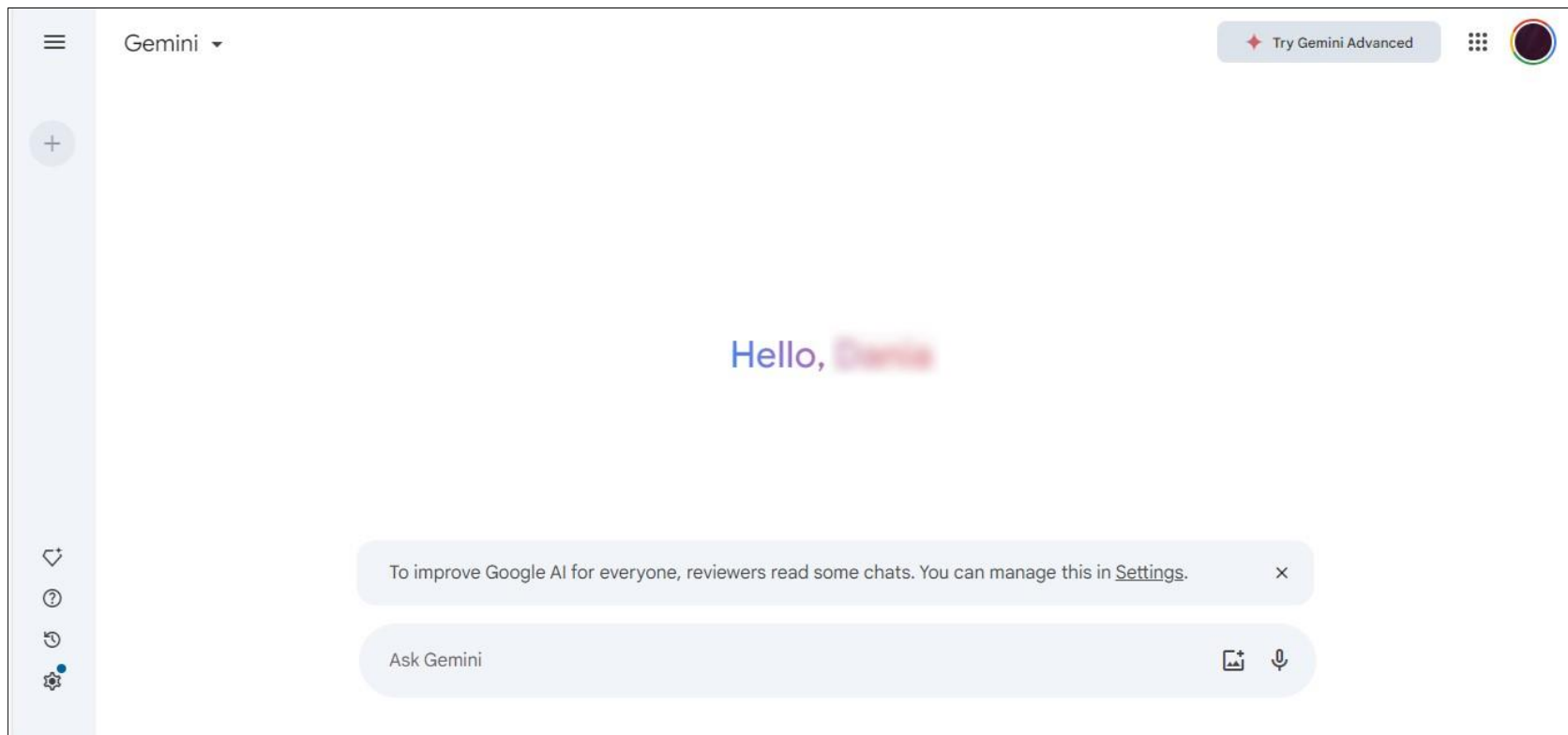


a. To sign up, you must enter your Gmail ID and password. You will receive an automated email confirming your Gemini account.

b. After signing up or log in, you should see this pop-up, click done.



c. You will now reach the home page, as shown below.

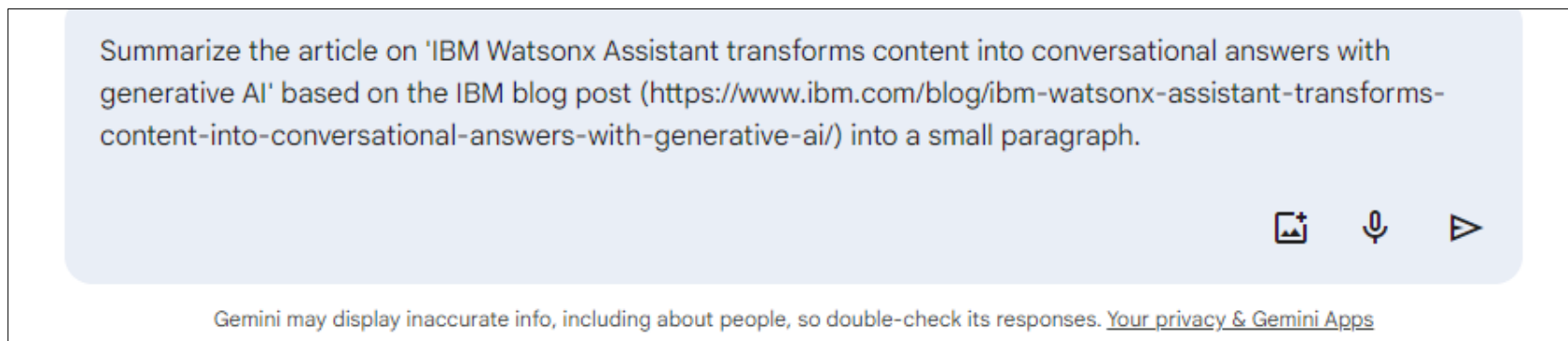


Step 2: Summarize the text using Gemini

1. Consider a scenario or context for the desired text summarization requirement.
2. Write the prompt or statement in the **Enter a prompt here** field at the bottom of the screen.
For example,

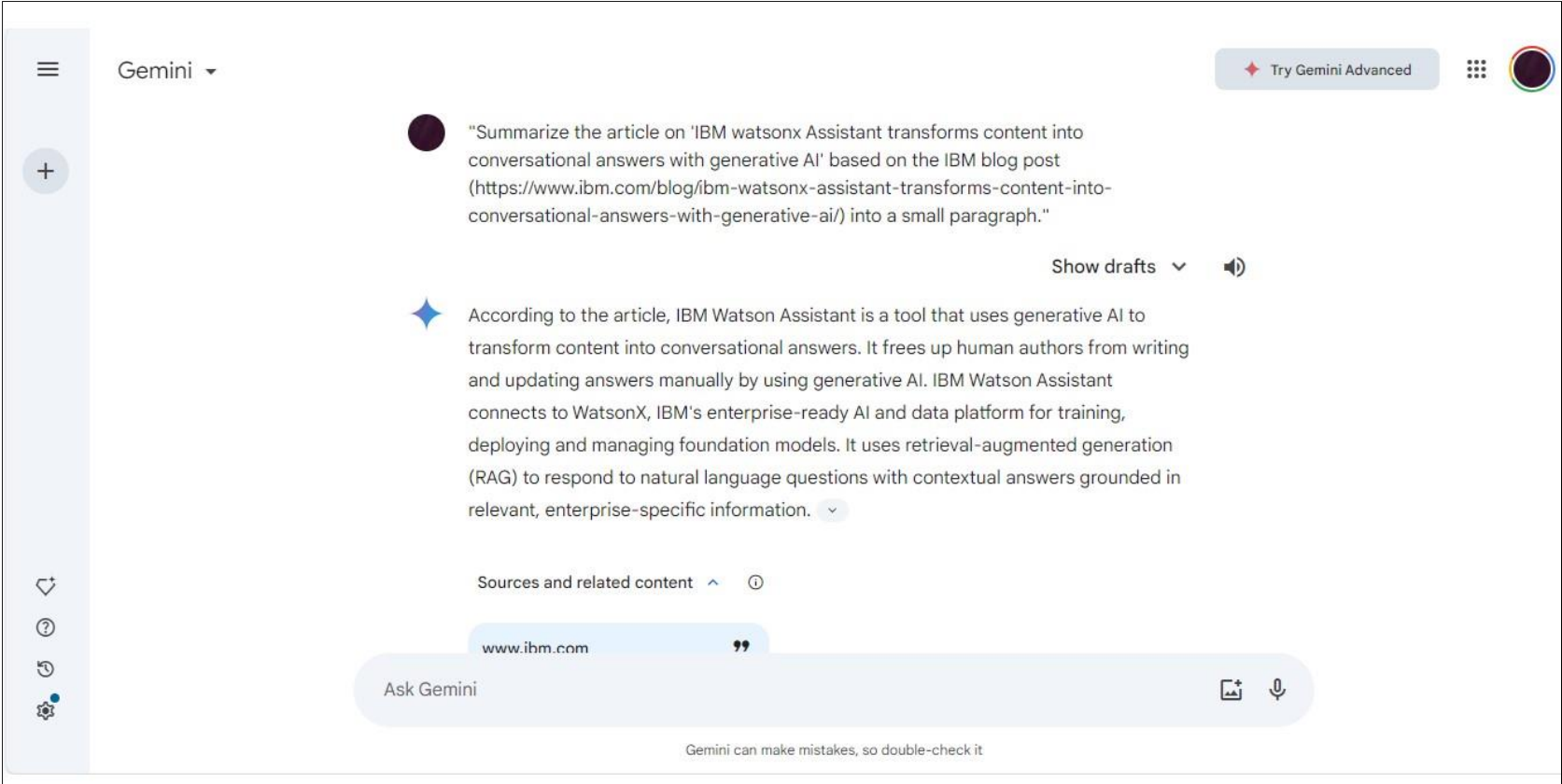
"Summarize the article on 'IBM watsonx Assistant transforms content into conversational answers with generative AI' based on the IBM blog post (<https://www.ibm.com/blog/ibm-watsonx-assistant-transforms-content-into-conversational>)

Note: For better results, include specific details about the subject and context of the required text.

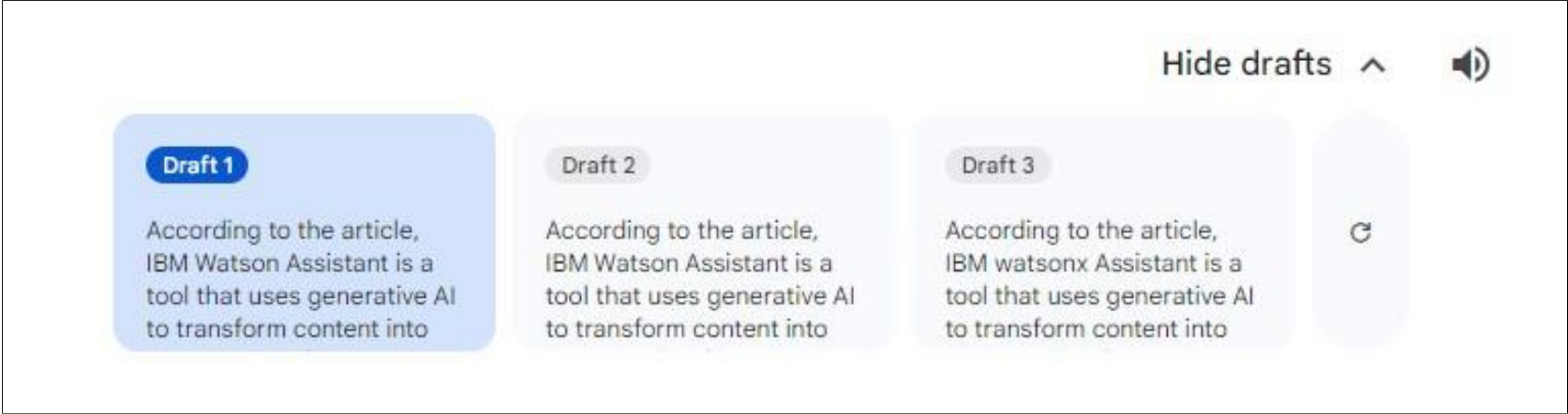


3. Now, click the arrow sign or press the enter key to send the message to the chatbot.

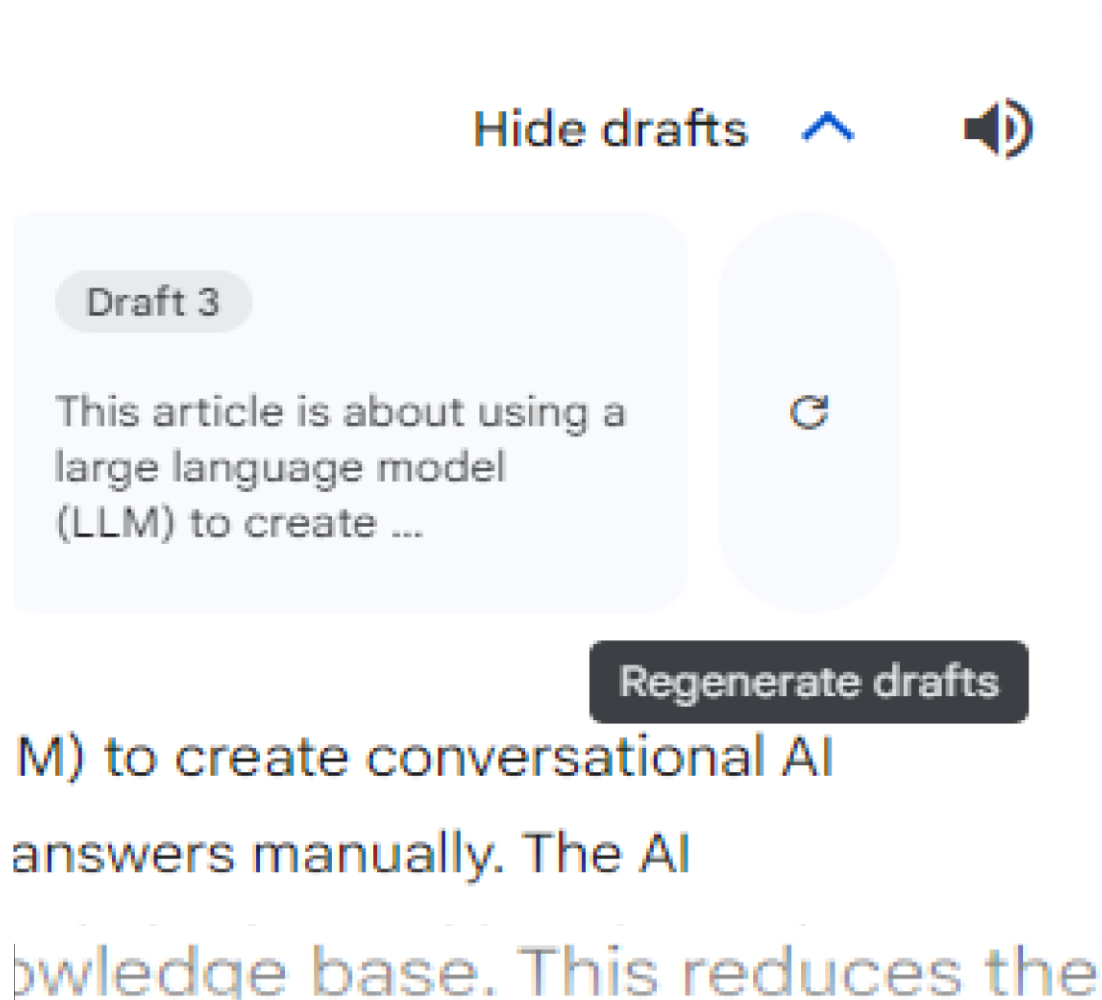
4. You will receive the textual response from Gemini for the desired article or text summarization prompt, similar to the screenshot shown below.



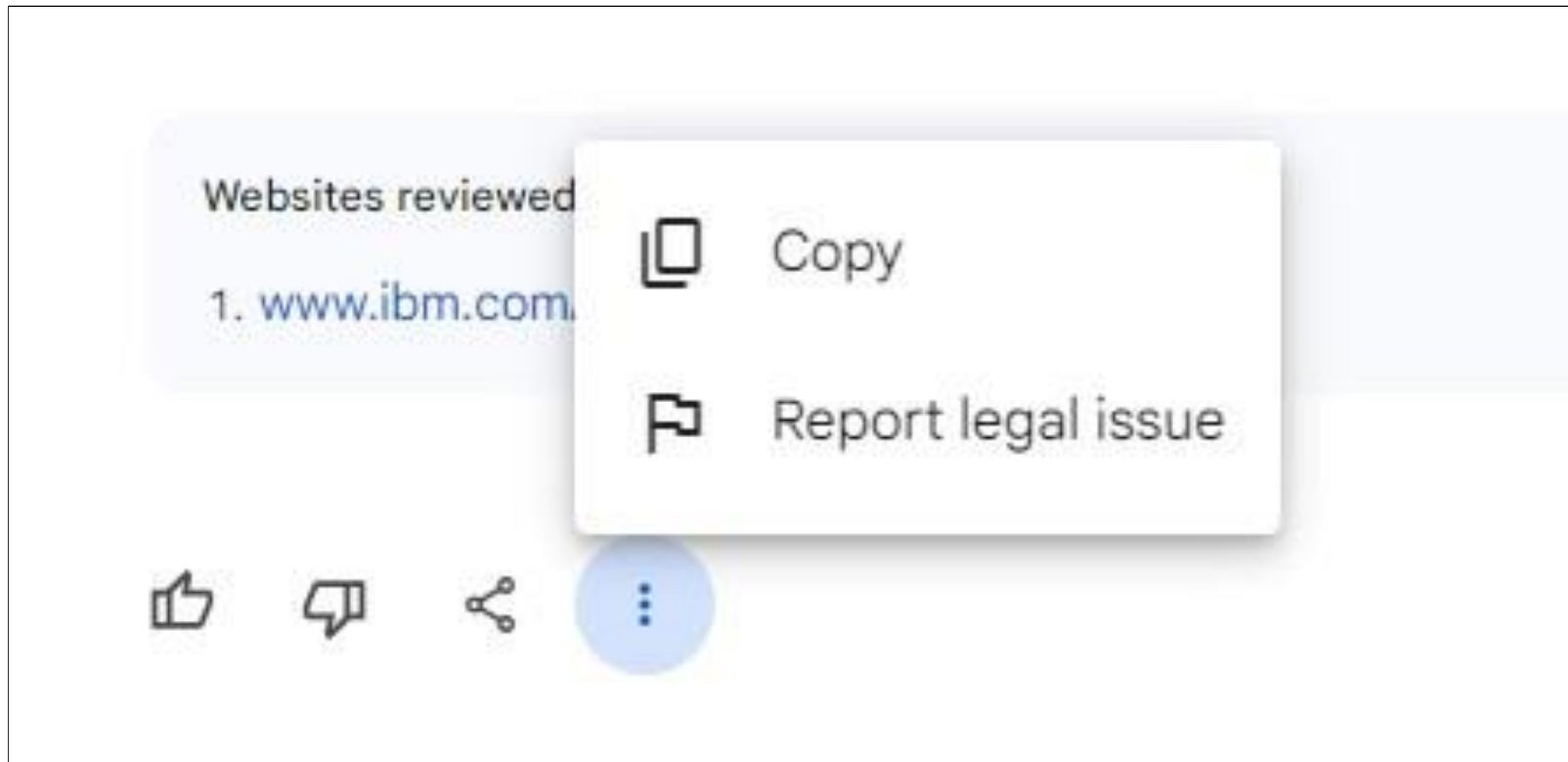
5. Gemini generates additional drafts for your prompt. You can review all drafts and select the best result for your requirements, similar to the screenshot shown below.



6. If you are unsatisfied with the response, click **regenerate drafts**, and Gemini will share revised draft responses for your original prompt.

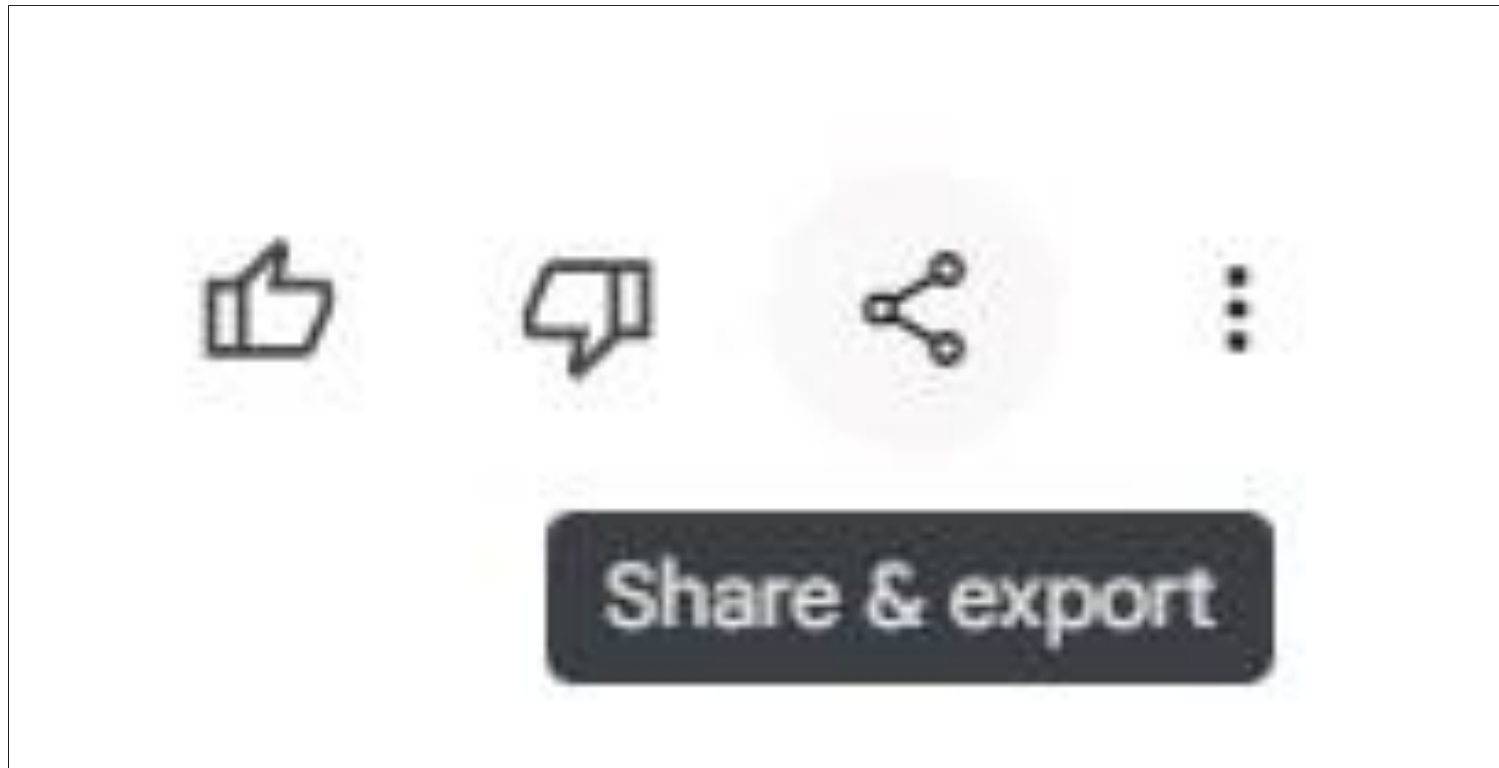


a. You can copy the generated text to share or reuse, as shown in the screenshot below.



7. You can use the generated output and tweak it further.

b. You can directly share or export the Gemini response, as shown in the screenshot below.



8. You must validate the content per context and use the generated text summary as required.

Note: You must validate the responses generated through Gemini for factual accuracy and use the technology ethically and responsibly.

Step 3: Try yourself

Using Gemini, you must try text summarization for different types of content: articles, blogs, research papers, or research reports.

Blogs



"Summarize the blogs on 'IBM watsonx Assistant transforms content into conversational answers with generative AI' based ..."



This is a document about IBM watsonx Assistant. It discusses how IBM watsonx Assistant uses generative AI to create conversational answers. IBM watsonx Assistant uses retrieval-augmented generation (RAG) to respond to natural language questions with contextual answers grounded in relevant, enterprise-specific information. RAG is an AI framework that combines search with generative artificial intelligence to retrieve enterprise-specific information from a search tool or vector database and then generate a conversational answer grounded in that information.¹ Building and deploying your first virtual assistant is much easier with conversational search. Maintaining virtual assistants also requires less effort. With conversational search, watsonx Assistant can accurately answer a broad range of questions without non-technical business users writing answers manually.²

Assistant can accurately answer a broad range of questions without non-technical business users writing answers manually.²

1. www.ibm.com



www.ibm.com

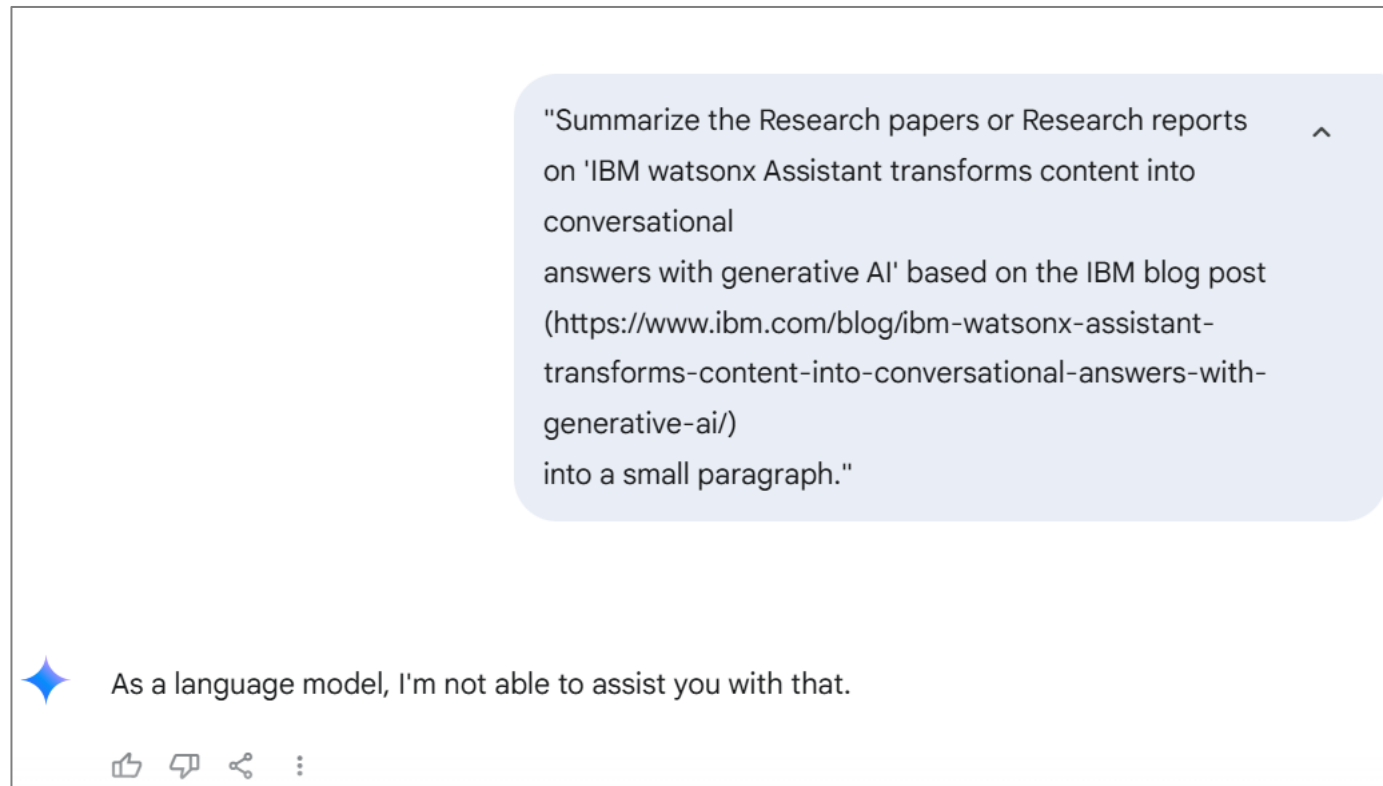
2. www.ibm.com



www.ibm.com



Research papers



Summary:

Congratulations! You just completed the hands-on lab text generation in action.

In this lab, you explored the text generation capabilities of generative AI using LLMs. You learned how to write an email using ChatGPT's assistance. You explored the computational abilities of generative AI's language model by converting the unit measurement. You also learned how to summarize text using Gemini for a given article or document.



Skills Network