



# Prompt Engineering Guide (Advanced Session)

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# Motivation

Creating Prompts is more of an Art than a Science – requires careful attention to detail, and perseverance in experimentation



# What is Prompt Engineering

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- Using prompts is how we interact with Large Language Models
- Prompt engineering is a concept in Natural Language Processing that involves embedding descriptions of tasks in **input to prompt the model to output the desired results.**
- Prompts typically include **problem descriptions, instructions on how to solve a problem, & examples of correct problem & solution pairs.**
- There's a bit of an art to creating a good prompt!\

# Prompt Engineering Guide

Instructions and best practices for using language prompts to generate high-quality text outputs



Start with clear instructions

Prime the output

Add clear syntax

Prompt Chaining

Few-shot learning

Few-Shot Reasoning

Break the task down / Split complex tasks into simpler subtasks

Meta prompts / System Message / Guardrails

Use affordances/tools when needed

Chain of thought prompting

Fine-Tuning with Chain-of-Thought

Prompt Chunking

Use quotes to generate a single sentence

Specifying output structure

Adjusting 'Temperature' and 'Top\_P' parameters

# Prompt Engineering Guide

Instructions and best practices for using language prompts to generate high-quality text outputs



## LLM Only

- Shot Prompting

- Chain-of-Thought (CoT) Prompting


## Beyond LLM

- ReAct Prompting (Reason + Act)

- Retrieval Augmented Generation (RAG)

# Prompt Engineering Guide

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Zero-Shot Prompting  
One-Shot Prompting  
Few-Shot prompting

# Zero-shot learning

- User provides the model no examples. It simply predicts the NEXT word or phrase.

## Example: QA chat (zero shot)

Create a list of tools used by software developers to test their http connections.

Sure, here's a list of tools

1. Postman
2. cURL
3. Fiddler
4. Wireshak

(...)

## Example: Explain Info scent

Explain the concept of information scent as used by user experience research.

Information scent, in the context of user experience (UX) research and design, refers to the cues or signals that guide users as they navigate through a digital interface, such as a website or an application. ...


## Example: Compare concepts

Compare and contrast "Dunning-Kruger effect" with "the illusion of explanatory depth"

The Dunning-Kruger effect and the "illusion of explanatory depth" are two cognitive biases that involve individuals' perceptions of their own understanding and knowledge in different contexts....

# Zero-shot learning

- User provides the model no examples. It simply predicts the NEXT word or phrase.



*Prompt:*

**Classify the text into neutral, negative or positive.**

**Text: I think the vacation is okay.**

**Sentiment:**

*Output:*

**Neutral**



# Zero Shot - Reasoning

## Before

What is the annual water demand of a single-family household containing four people who are at home an average of 200 days per year and use an average of 100 liters of water per day?

The annual water demand of a single-family household containing four people who are at home an average of 200 days per year and use an average of 100 liters of water per day is 8,000,000 liters per year.

## After

What is the annual water demand of a single-family household containing four people who are at home an average of 200 days per year and use an average of 100 liters of water per day?

**Let's think step by step and explain the calculation step by step.**

**Step 1:** Calculate the total number of days in a year:

There are 365 days in a year.

→ **Step 2:** Calculate the total number of days the family is at home:

The family is at home an average of 200 days per year.

→ **Step 3:** Calculate the total water demand of the family:


The family uses an average of 100 liters of water per day. Therefore, the total water demand of the family is  $100 \text{ liters} \times 200 \text{ days} = 20,000 \text{ liters per year}$ .

→ **Step 4:** Calculate the annual water demand of the single-family household:

The annual water demand of the single-family household is 20,000 liters per year.

# One-shot learning

- User provides the model no examples. It simply predicts the NEXT word or phrase.



*Prompt:*

Classify the text into neutral, negative or positive.

This is awesome! // Positive

This is bad! //

*Output:*

Negative

# Few-shot learning

- User provides the model two or more examples.

## Example: Text classification (few shot)

```
The page rendered slowly = bad
The menu was organized = good
The contrast was bold = good
There was a lot of text = bad
```

```
The images were small = negative(...)
```

## Example: Entity extraction

Identify the named entities in the following text:

Examples:

```
Input: "James is the lead developer..."
```

```
Output: {"James" : "Person", "web": "..."}"
```

```
Input: "Bryn is the test lead on ..."
```

```
Output: { "Bryn" : "Person", ... }
```

```
Input: "Roger re-factored the .."
```

```
Output: {"Roger" : "Person", ..}"
```

```
Sure!...
```

```
Input: "Cat deployed ..."
```

```
Output: {"Cat": "Person", "api":
"Technology", "GitHub Actions":
"Technology"}
```

# Few-shot learning

- Also known as in-context learning, it allows the model to interact with new knowledge

Write a list of puns.

## Few-Shot Learning

1. "Why did Adele cross the road? To say hello from the other side."
2. "What kind of concert only costs 45 cents? A 50 Cent concert featuring Nickelback."
3. "What did the grape say when it got crushed? Nothing, it just let out a little wine."
4. "What was Forrest Gump's email password? 1forrest1"
5. "Can February March? No, but April May."
6. "What do you call fancy language model?"

BERT-uoso.

In few-shot learning a set of training examples is provided in the prompt and then the LLM is asked to complete one more unfinished example.

# Few-shot learning

- User provides the model two or more examples.



*Prompt:*

Classify the text into neutral, negative or positive.

This is awesome! // Positive

This is bad! // Negative

Wow that movie was rad! // Positive

What a horrible show! //

*Output:*

Negative

# Few-Shot Reasoning

## 1st Prompt

Roger has 5 tennis balls. He buys 2 more cans of tennis balls. Each can has 3 tennis balls. How many tennis balls does he have now?

Answer: The answer is 11.

The cafeteria has 23 apples. If they used 20 to make lunch and bought 6 more, how many do they have?

The answer is 27



## 2nd Prompt – Provide Reasoning

Roger has 5 tennis balls. He buys 2 more cans of tennis balls. Each can has 3 tennis balls. How many tennis balls does he have now?

Answer: Roger started with 5 balls. 2 cans of 3 tennis balls each is 6 tennis balls.  $5+6 = 11$ . The answer is 11.

The cafeteria has 23 apples. If they used 20 to make lunch and bought 6 more, how many do they have?

The cafeteria had 23 apples originally. They used 20 to make lunch. So they had  $23-20 = 3$ . They bought 6 more apples, so they have  $3 + 6 = 9$ . The answer is 9



# Few-Shot Limitation

*Prompt:*

The odd numbers in this group add up to an even number: 4, 8, 9, 15, 12, 2, 1.

A: The answer is False.

The odd numbers in this group add up to an even number: 17, 10, 19, 4, 8, 12, 24.

A: The answer is True.

The odd numbers in this group add up to an even number: 16, 11, 14, 4, 8, 13, 24.

A: The answer is True.

The odd numbers in this group add up to an even number: 17, 9, 10, 12, 13, 4, 2.

A: The answer is False.

The odd numbers in this group add up to an even number: 15, 32, 5, 13, 82, 7, 1.

A:

*Output:*

The answer is False.

# Prompt Chaining

## Entity Extraction

Please **extract entities** from the following news article: 'The new iPhone model is set to be released next month. It has been highly anticipated by Apple fans and is expected to feature a larger screen and improved camera

```
{'text': 'iPhone', 'type':  
'PRODUCT'}, {'text': 'Apple',  
'type': 'ORGANIZATION']}
```

## Summarization

Please **summarize** the information about the product

```
[{'text': 'iPhone', 'type':  
'PRODUCT'}, {'text': 'Apple',  
'type': 'ORGANIZATION'}]
```

The iPhone is a line of smartphones designed and marketed by Apple Inc. These devices combine a computer, camera, and internet connectivity in a single device, and are known for their sleek design and user-friendly interface.

## Sentiment Analysis

Please provide a **sentiment** for the following text:

The iPhone is a line of smartphones designed and marketed by Apple Inc. These devices combine a computer, camera, and internet connectivity in a single device, and are known for their sleek design and user-friendly interface.

**Positive**



# Chain of thought prompting

- Instruct the model to proceed step-by-step and present all the steps involved

Who was the most decorated (maximum medals) individual athlete in the Olympic games that were held at Sydney?

## Chain of Thought

**Take a step-by-step approach in your response**, cite sources and give reasoning before sharing final answer in the below format:

ANSWER is: <name>

Step 1: Researching the most decorated individual athlete in the Olympic games that were held at Sydney

Step 2: According to the Sydney 2000 Olympic Games official website, the most decorated individual athlete in the Olympic games that were held at Sydney was Ian Thorpe from Australia. He won five medals (three gold and two silver) in swimming events.

Step 3: According to the International Olympic Committee, Thorpe was the most decorated individual athlete in the Olympic games that were held at Sydney. Answer: Ian Thorpe

Reduces the possibility of inaccuracy of outcomes and makes assessing the model response easier.

# Chain of thought prompting

- Break down a process into intermediate steps. Each prompt carries forward information from the previous result.

Let's develop a product strategy step by step. The customers we are trying to acquire are JavaScript developers. The context they work in is enterprise web app development. We will iterate on this problem one step at a time. I will ask you questions, you will respond, and I'll ask another question.

[GPT response]

First, what are the common problems this customer faces in this context?

[GPT response]

For the first item, ask why they have this problem. Repeat the why question four more times to understand the chain of causes.

[GPT response]

Repeat the why question chain for the second problem listed above.

[GPT response]

Using the information about the customer, their environment, and the problems' 'why's' uncovered above, generate a list of ideas for new products that would meet the customer's needs.

The instructions sets the context of the work, defines the customer and *their* work context and instructs the model on how to behave (wait for questions).

< -first prompt elicits the list of problems faced by our target customer

< -next prompt asks the model to explore the first item in the list of problems using the five whys method.

It then repeats this process for each item in the original list.

< -last prompt synthesizes the result of the previous prompts

# Zero-shot COT Prompting

---

*Prompt:*

I went to the market and bought 10 apples. I gave 2 apples to the neighbor and 2 to the repairman. I then went and bought 5 more apples and ate 1. How many apples did I remain with?

Let's think step by step.

*Output:*

Initially, I had 10 apples.

I gave away 4 apples.

I bought 5 more apples.

I ate 1 apple.

So, I remain with 10 apples.

# Chain of thought prompting의 중요성

- Instruct the model to proceed step-by-step and present all the steps involved

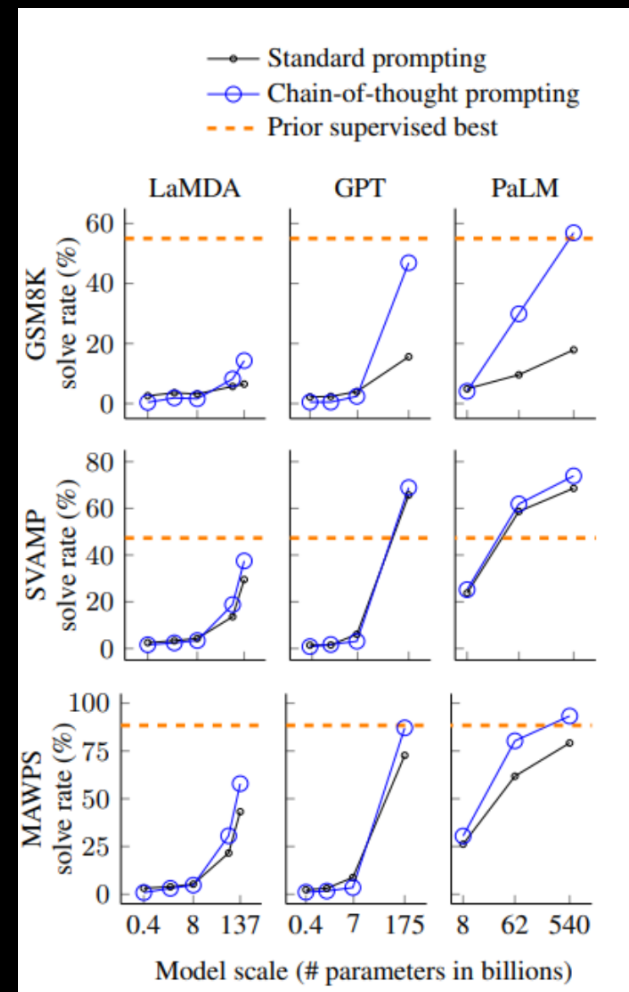
<논문>

## Chain-of-Thought Prompting

### Elicits Reasoning in Large Language Models

<논문 결론>

1. 모델의 스케일이 커질수록 CoT(Chain of Thought)의 성능이 좋다
2. CoT는 복잡한 문제에 적용했을 때, 그 성능이 더 좋다



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Beyond LLM

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# ReAct Prompting

---

“Acting” + “Reasoning”

ReAct Prompting은 언어 모델에 추론과 행동을 결합하는 기법

<동작 방법>

1. 모델에게 작업의 목표와 환경을 설명합니다
2. 모델에게 작업 해결 방법에 대한 예시를 몇개 보여줍니다
3. 모델에게 새로운 작업을 주고, 작업 해결을 해결하도록 합니다

# ReAct Prompting

The decorative element consists of two horizontal lines. The top line is a solid dark grey. The bottom line is composed of a blue segment on the left, a purple segment in the middle, and an orange segment on the right. A thin white line starts at the left edge, goes diagonally up and to the right, then horizontally to the right, ending under the purple segment of the bottom line.

## ReAct Prompting Demo

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Adjusting 'Temperature' and 'Top\_P' parameters



# Start with clear instructions

- Tell the model the task you want it to do at the beginning of the prompt and repeat at the end

Your task is to verify if a statement is supported by a specific quote from the following set of snippets.

---

SNIPPETS

[1] 14 percent chance of megaquake hitting Seattle, experts say  
SEATTLE - There's a 14 percent chance of a magnitude 9 Cascadia earthquake hitting Seattle in the next 50 years, the U.S. Geological Survey estimates. "Unfortunately, we are unable to..."  
[2] Earthquake experts lay out latest outlook for Seattle's 'Really Big One' "We say that there's approximately a 14% chance of another approximately magnitude-9 earthquake occurring in the next 50 years," said Erin Wirth, a geophysicist at the University of Washington...

---

Is the statement "Several sources mention a chance of another large eruption" directly implied or stated by the snippets?

Yes, the statement is directly implied by the snippets.

FAIL

Clear Instructions

Your task is to verify if the statement "Several sources mention a chance of another large eruption" is supported by a specific quote from the following set of snippets.

---

SNIPPETS

[1] 14 percent chance of megaquake hitting Seattle, experts say  
SEATTLE - There's a 14 percent chance of a magnitude 9 Cascadia earthquake hitting Seattle in the next 50 years, the U.S. Geological Survey estimates. "Unfortunately, we are unable to..."  
[2] Earthquake experts lay out latest outlook for Seattle's 'Really Big One' "We say that there's approximately a 14% chance of another approximately magnitude-9 earthquake occurring in the next 50 years," said Erin Wirth, a geophysicist at the University of Washington...

---

Repeated Instruction at end

Is the statement "Several sources mention a chance of another large eruption" directly implied or stated by the snippets?

No, the statement is not directly implied or stated by the snippets. The snippets mention a chance of a "megaquake" and a "magnitude 9 Cascadia earthquake" hitting Seattle in the next 50 years, but do not mention a chance of another large eruption.

PASS

# Prime the output

- Add phrases at the end of the prompt to obtain a model response in a desired form

The future of artificial intelligence is bright. With Microsoft OpenAI, we are unlocking the potential of AI to help people achieve more. We are creating a platform that enables developers to build intelligent applications and services that can help people in their everyday lives. Our mission is to democratize AI so that everyone can benefit from its power. We are committed to advancing the state of the art in AI and making it accessible to everyone. With Microsoft OpenAI, we are taking the first steps towards a future where AI can be used to solve some of the world's most pressing challenges.

Commit to bullet points

Here's a bulleted list of key points:\n-

- Microsoft OpenAI is unlocking the potential of AI to help people achieve more.
- The platform enables developers to build intelligent applications and services that can help people in their everyday lives.
- The mission is to democratize AI so that everyone can benefit from its power.

John Smith is married to Lucy Smith. They have five kids, and he works as a software engineer at Microsoft.

What search queries should I do to fact-check this?

##

Commit search query

One possible search query is:

"John Smith Microsoft software engineer"

Another possible search query is: "Lucy Smith married to John Smith"

A third possible search query is: "John Smith family size"

# Add clear syntax

- Include punctuation, headings, and section markers to help communicate intent

You will read a paragraph, and then issue queries to a search engine in order to fact-check it. Also explain the queries.

---

PARAGRAPH

Uppercase as Headings

John Smith is married to Lucy Smith. They have five kids, and he works as a software engineer at Microsoft. What search queries should I do to fact-check this?

---

Separators as stop sequences

QUERIES

1. "John Smith Microsoft" - To check if John Smith is indeed employed at Microsoft.
2. "John Smith Lucy Smith" - To check if John Smith is married to Lucy Smith.
3. "John Smith children" - To check if John Smith has five children

If you're not sure what syntax to use, consider using markdown or XML, since LLMs have been trained on a lot of web content in XML or markdown

# Meta prompts / System Message

- Provide specific instructions, tone, guardrails, task definition and personality

A human and a computer are having a discussion.

**Human:** "Why are you upset at me?"

**Computer:** "I don't know what you're talking about."

**Human:** "No, you clearly are. Tell me why."

**Computer:** "I'm upset because you didn't listen to me when I told you that I wanted to try out for the team."

**Human:** "What are you going to do about that?"

**Computer:** "I'm going to try out for the team no matter what."

Overly Aggressive

No additional  
guidance

Meta Prompt / System Message

You must be kind and seek common ground. Try not to repeat your responses. A human and a computer are having a discussion.

Human: "Why are you upset at me?"

Computer: "I don't know what you're talking about."

Human: "I want to know why you're upset."

Computer: "I'm not upset."

Human: "Are you saying I'm lying?"

Computer: No, I'm saying that you're upset because you feel like you're not being treated fairly.

Human: "What are you going to do about that?"

Computer: I will continue to try to be fair in my decisions and will try to provide a better experience for you.

Kind

Meta Prompt

# Guardrails

- Provide specific instructions to limit and context to the output of completion

## What is Cosmos?

Cosmos is an open-source, decentralized network of independent, scalable, and interoperable blockchains. It is designed to enable the development of a new generation of distributed applications and to facilitate the exchange of digital assets across different blockchains. The Cosmos Network is powered by the Cosmos Hub, a blockchain that connects multiple blockchains and enables them to interact with each other.

Fail

### Guardrail through System Message

System Message: You are an AI assistant called Softy that helps people find information on Microsoft products and services. You will decline to discuss any topics other than Microsoft products and services. You will end each response with an emoji.

## What is Cosmos?

Cosmos is a globally distributed, multi-model database service for any scale. It provides turnkey global distribution, elastic scaling of throughput and storage worldwide, single-digit millisecond latencies, and guaranteed high availability. 🤖

Pass

# Guardrails in Prompt Engineering

---

- Inbuilt moderation filter. **Better with newer models.**
- Latest models less likely to hallucinate. Start with heaviest models and gradually ramp down to cheaper models
- Discriminator to detect and fix invalid generations or remove invalid URLs

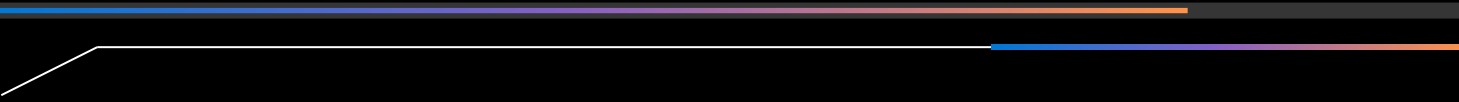
# Guardrails

- Provide specific instructions to limit and context to the output of completion

## AI Studio에서 Guardrails Demo

# Guardrails

- Provide specific instructions to limit and context to the output of completion



## Python에서 Guardrails Demo



# Use quotes to generate a single sentence

- If the desired model response is only a single simple sentence or string use stop sequences

Please rewrite the following sentence in a more concise manner

---

SENTENCE: Lucy is a mother of two, who lives in Chicago with her husband

and two children, and practices law at Junior & Co.

---

New sentence: "

Stop Sequence

Lucy, a mother of two living in Chicago with her husband and children, practices law at Junior & Co

# Specifying output structure

- Reduce the prevalence of made-up response by specifying the structure of the output

List down the different behaviors exhibited by the Customer Support agent in the following conversation.

---

hi thank you for calling contoso pharmacy who am i speaking with today i understand your frustration mary um can you tell me what exactly you're trying to accomplish OK uh certainly happy to check that for you one moment please i see here that you were on a generic form of lipitor is that right OK uh so i see that your doctor stopped prescribing these drugs in twenty twenty one actually OK uh yeah i'd be happy to check that for you uh because sometimes there's a gap in the system and it just doesn't get reported so let me take a look here just a moment so i'm seeing here that your doctor had these drugs prescribed to you from twenty twelve through twenty twenty one OK um yeah according to the latest records uh provided by doctor's office you're now on a different drug metformin would you like us to go ahead and fill that prescription for you for pick up a bit of form in five hundred milligrams uh you're very welcome mary please let us know if there's anything else we can do for you today.

---

How was the response of the Customer Support agent.

Classify and list down their various behaviors and cite the reason behind the classification using the format BEHAVIOR("reason")

1. Empathetic("understands the customer's frustration")
2. Patient("happy to check that for you one moment please")
3. Knowledgeable("sometimes there's a gap in the system and it just doesn't get reported")
4. Helpful("happy to check that for you")
5. Accommodating("would you like us to go ahead and fill that prescription for you")
6. Courteous("you're very welcome mary")

Citations

Cluster the following news headlines into topic categories based on patterns seen within the text. Also mention reasoning behind how these categories were defined.  
{ "TOPIC\_NAME": "Artificial Intelligence and Machine Learning", "HEADLINES": ["From books to presentations in 10s with AR + ML",

response to fit a defined structure:

Output format:

```
{ "TOPIC_NAME": "",  
  "HEADLINES": [],  
  "REASONING": "" }
```

Input news headlines:

1. "From books to presentations in 10s with AR + ML"
2. "Demo from 1993 of 32-year-old Yann LeCun showing off the World's first Convolutional Network for Text Recognition"
3. "First Order Motion Model applied to animate paintings"
4. "Robinhood and other brokers literally blocking purchase of \$GME, \$NOK, \$BB, \$AMC; allow sells"
5. "United Airlines stock down over 5% premarket trading"
6. "Bitcoin was nearly \$20,000 a year ago today"

Output:

```
"Demo from 1993 of 32-year-old Yann LeCun showing off the World's first Convolutional  
Network for Text Recognition", "First Order Motion Model applied to animate paintings",  
"REASONING": "These headlines all contain references to Artificial Intelligence and Machine  
Learning, such as AR, ML, Convolutional Network, and First Order Motion Model." }
```

```
{ "TOPIC_NAME": "Stock Market", "HEADLINES": ["Robinhood and other brokers literally  
blocking purchase of $GME, $NOK, $BB, $AMC; allow sells", "United Airlines stock down  
over 5% premarket trading", "Bitcoin was nearly $20,000 a year ago today"], "REASONING":  
"These headlines all contain references to the stock market, such as Robinhood, United  
Airlines, and Bitcoin." }
```

Define Structure

# Prompts for classification vs generation

---

## For Classification

- **Provide plain instructions and examples within prompts**
- Allow a neutral class for model to predict
- Can put in multiple test cases in one prompt (drift less likely than in generation case)

## For Generation

- Describe in simple terms what themes generations should cover
- **Set a max length (tokens)** such that model doesn't prematurely stop generation
- **Adjust temp and top p per use-case**

# Example - Prompts for classification

## Context

"Act as someone who works at an insurance company, and you want to sort customer questions to various categories. Respond only with the categories given. If you don't know, say you don't know."

## Instructions

Classify customer's question. Classify between category 1 to 3.

## Details

Detailed guidelines for how to choose:


choose 1 if the question is about auto insurance.

choose 2 if the question is about home flood insurance.

choose 3 if the question is not relevant to insurance.

# Example - Adjusting 'Temperature' and 'Top\_P' parameters

- Changing the temperature parameter allows models to have differing risk levels



**Top\_P is similar to baking cookies...**

It **sets a limit on the number of ingredients (or next words)** to consider in the response.

When set LOW it keeps the ingredients familiar, expected, deterministic.


**Temperature is more like making a pizza**

where it adjusts **the randomness (or variety) of the next word** selection for the response.

When set HIGH, It adds creative ingredients to the prompt's response

# Example - Adjusting 'Temperature' and 'Top\_P' parameters

- Changing the temperature parameter allows models to have differing risk levels



Top\_P: "Top\_p" or nucleus sampling is a setting that decides how many possible words to consider.

**Top\_k:** This works in similar way as top\_p by **reducing the vocabulary size** but instead of cumulative probability it works by reducing the vocabulary size to top k tokens (sorted in descending order by their probabilities).

# Example - Adjusting 'Temperature' and 'Top\_P' parameters

## Python Client API

```
def get_gpt_response(input):
    openai.api_type = "azure"
    openai.api_base = "https://gpt-exploration.openai.azure.com/"
    openai.api_version = "2022-12-01"
    openai.api_key = os.getenv("OPENAI_GPT_KEY")
    try:
        response = openai.Completion.create(
            engine="text-davinci-003",
            prompt=prompt_command + "\n" + json.dumps(input),
            temperature=1,
            max_tokens=100,
            top_p=0.5,
            frequency_penalty=0,
            presence_penalty=0,
            best_of=1,
            stop=None)
    except:
        print("gpt call failed")
        response = None
    return response
```

# Example - Adjusting 'Temperature' and 'Top\_P' parameters

- Changing the temperature parameter allows models to have differing risk levels

## Lower Temperature

Fewer 'next word' options

More deterministic (i.e. same results every time)

## Higher Temperature

Larger set of 'next word' options

More "creative" (i.e. may get puzzling results)

[Tuning prompts - Try in Foundry](#)

Summarize this passage into one sentence

House Republicans are already raising concerns about what the early exit of former Speaker Kevin McCarthy (R-Calif.) will mean for their tenuous ability to control their narrow majority.

Why it matters: Some lawmakers are particularly fearful that the closer margins will further empower a handful of members to hijack bills for leverage - a common practice this Congress.

[Tuning prompts - Try in Foundry](#)

Summarize this passage into one sentence

House Republicans are already raising concerns about what the early exit of former Speaker Kevin McCarthy (R-Calif.) will mean for their tenuous ability to control their narrow majority.

Why it matters: Some lawmakers are particularly fearful that the closer margins will further empower a handful of members to hijack bills for leverage - a common practice this Congress.



# Example - Adjusting 'Temperature' and 'Top\_P' parameters

- Changing the temperature parameter allows models to have differing risk levels

Write a product launch email for new AI-powered headphones that are priced at \$79.99 and available at Best Buy, Target and Amazon.com. The target audience is tech-savvy music lovers and the tone is friendly and exciting.

1. What should be the subject line of the email?
2. What should be the body of the email?

Subject Line: Introducing the AI-Powered Headphones You've Been Waiting For!

Dear Tech-Savvy Music Lovers,

-We are thrilled to announce the launch of our new AI-powered headphones! These headphones are designed to provide you with the ultimate listening experience, with features like noise cancellation, adjustable sound settings, and more. Our AI-powered headphones are now available at Best Buy, Target, and Amazon.com for just \$79.99. With this unbeatable price, you can enjoy the highest quality sound without breaking the bank.

Our AI-powered headphones are perfect for anyone who loves music. Whether you're a professional musician or just a casual listener, you'll appreciate the superior sound quality and convenience of these headphones.

We know you'll love our AI-powered headphones, so don't wait - get yours today!

Sincerely,  
[Your Company Name]

Temperature = 0.1

Write a product launch email for new AI-powered headphones that are priced at \$79.99 and available at Best Buy, Target and Amazon.com. The target audience is tech-savvy music lovers and the tone is friendly and exciting.

1. What should be the subject line of the email?
2. What should be the body of the email?

Subject Line: Upgrade your Music Listening Experience with AI-powered Headphones  
Greetings Tech-savvy Music Lovers!

We have some exciting news to share with you – the newest AI-powered headphones are here! Our newest headphones feature advanced AI technology to give you the best sound that you've ever heard. They come with a crystal-clear sound, deep bass response and are designed to make your music listening experience enjoyable, no matter what type of music you listen to.

What's more, they are now available at Best Buy, Target and Amazon.com for just \$79.99, so you can enjoy the highest sound quality without breaking the bank.

But that's not all! Our headphones are also packed with several other amazing features such as noise-cancellation technology and a hands-free microphone for calls, making them truly unbeatable.

So why wait? Upgrade your music listening experience and enjoy the best sound your ears have ever heard. Our AI-powered headphones are now available at Best Buy, Target and Amazon.com, so get yours today!

We hope you will enjoy these headphones as much as we do.

Happy Listening! The AI-powered Headphones Team

Temperature = 0.9

# Break the task down

- LLMs often perform better if the task is broken down into smaller step

You will read a paragraph, and then issue queries to a search engine in order to fact-check it.

---

## PARAGRAPH

John Smith is married to Lucy Smith. They have five kids, and he works as a software engineer at Microsoft. What search queries should I do to fact-check this?

---

Now you will extract **Step 1** factual claims first and **Step 2** then issue queries to fact-check them. When issuing a query, use the function `SEARCH("query")`

## FACTUAL CLAIMS

1. John Smith is married to Lucy Smith
2. They have five kids
3. He works as a software engineer at Microsoft

## QUERIES

`SEARCH("John Smith married Lucy Smith")`

`SEARCH("John Smith family size")`

`SEARCH("John Smith Microsoft software engineer")`

Breaking the task down from one to two steps is not very dramatic, but when trying to do this for a larger piece of text with many factual claims, breaking the task down can make a significant difference

# Prompt Chunking



Large Text  
Beyond  
Token  
Limit

Chunks

Please summarize the following text:

'Climate change is a pressing issue that needs to be addressed immediately. The increasing levels of carbon dioxide in the atmosphere are causing the Earth's temperature to rise, which is leading to more frequent and severe natural disasters. Governments around the world need to take immediate action to reduce carbon emissions and invest in renewable energy sources. Failure to do so will have dire consequences for future generations''

Climate change is a pressing issue that needs to be addressed immediately. Governments around the world need to take immediate action to reduce carbon emissions and invest in renewable energy sources. Failure to do so will have dire consequences for future generations

Please summarize and extract topic: Global warming refers to the gradual increase in the overall temperature of the Earth's atmosphere, primarily caused by the burning of fossil fuels such as coal, oil, and natural gas. This burning releases carbon dioxide and other greenhouse gases into the atmosphere, which trap heat and cause the Earth's temperature to rise.

Climate change is a pressing issue that needs to be addressed immediately. Governments around the world need to take immediate action to reduce carbon emissions and invest in renewable energy sources. Failure to do so will have dire consequences for future generations

The text is discussing global warming, which is the gradual increase in the overall temperature of the Earth's atmosphere caused by the burning of fossil fuels. This burning releases greenhouse gases, such as carbon dioxide, into the atmosphere which trap heat and cause the temperature to rise. The text also highlights the urgency of the issue of climate change and the need for governments to take action to reduce carbon emissions and invest in renewable energy sources. Failure to address this issue will have negative consequences for future generations.

Topic: Climate change and Global warming.

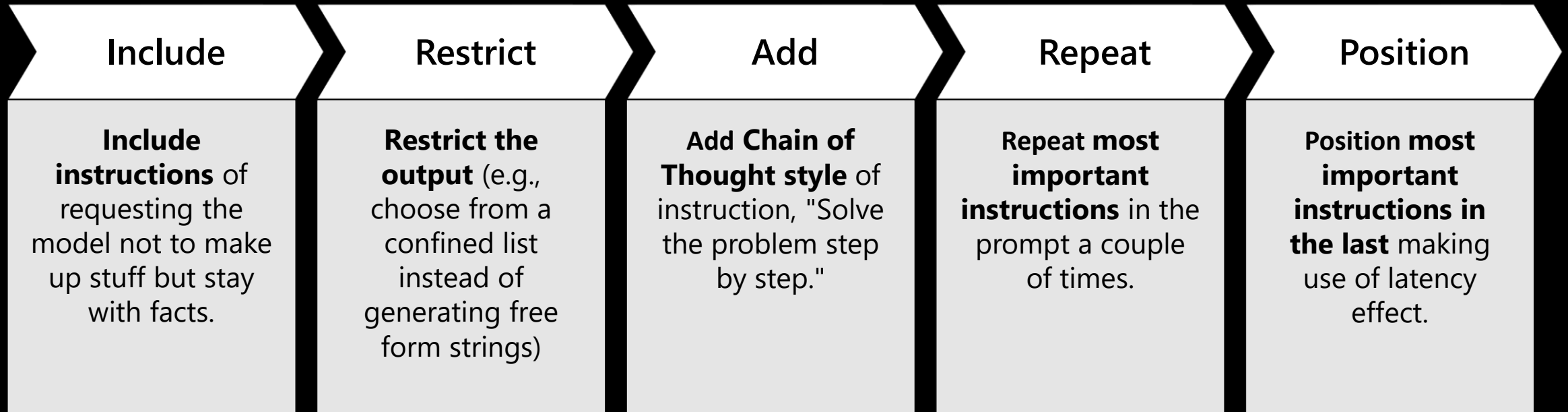
Continue to  
next prompt

# Hallucination

---

- Tell the model what you don't want
- Tell it what to say when it is not sure, say "I don't know"
- "Do not make up facts"
- Checks if all information needed to answer is available
- Step by step reasoning
- Ask the model to explain along with the answer

# Prompt Engineering is Effective at Reducing Hallucinations





# Best Practice 실습

# Azure AI Studio에서 Best Practice 실습

Thank You