

APRIL 2025

HACKING THE PROMPT USING AI TO PROBLEM SOLVE AND LEARN

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-02

WELCOME



03

AGENDA

INTRODUCTION

ACTIVITY #1

KEY CONCEPTS

ACTIVITY #2




PROMPT ENGINEERING

ACTIVITY #3

SHARE OUT & CLOSING

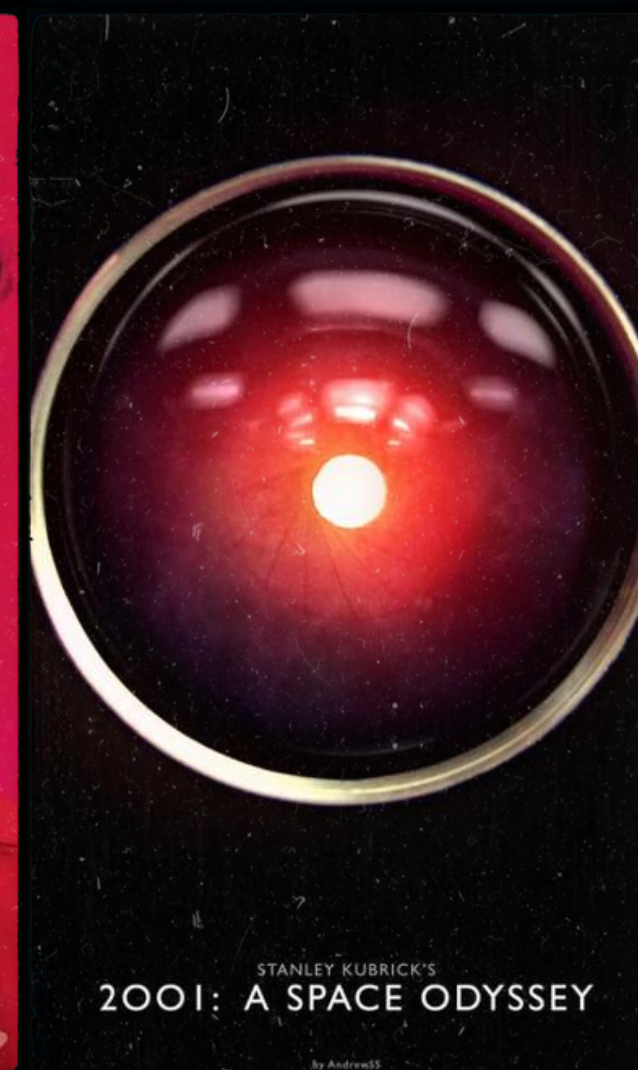
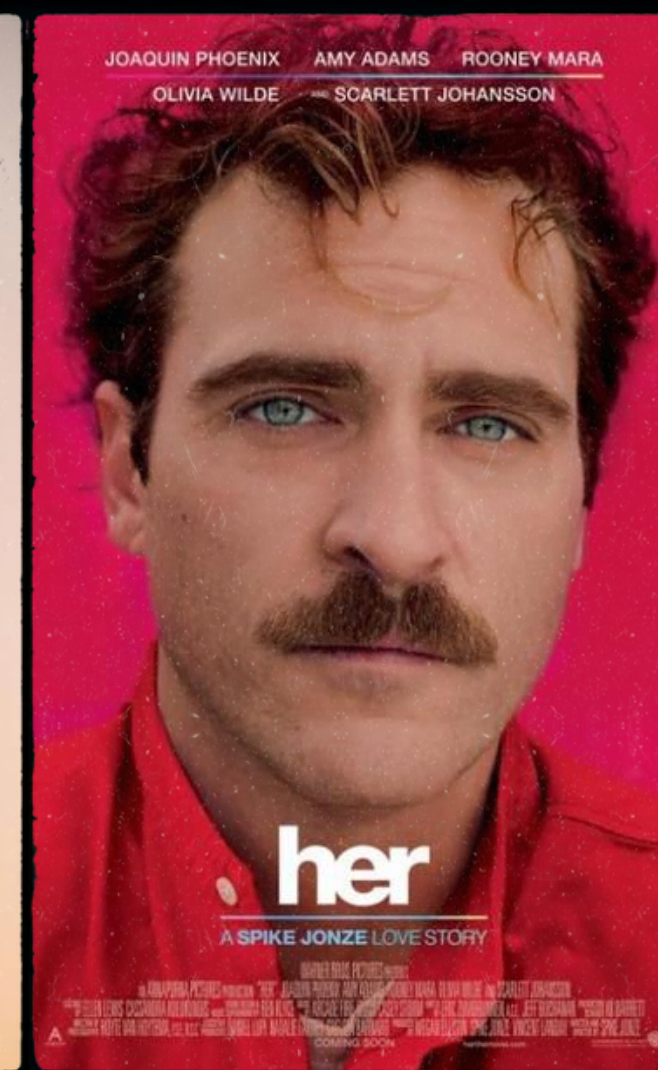
Introduction



-  **Saying hello**
-  **Group norms**
-  **Somatic exercises**

IMAGINING AI

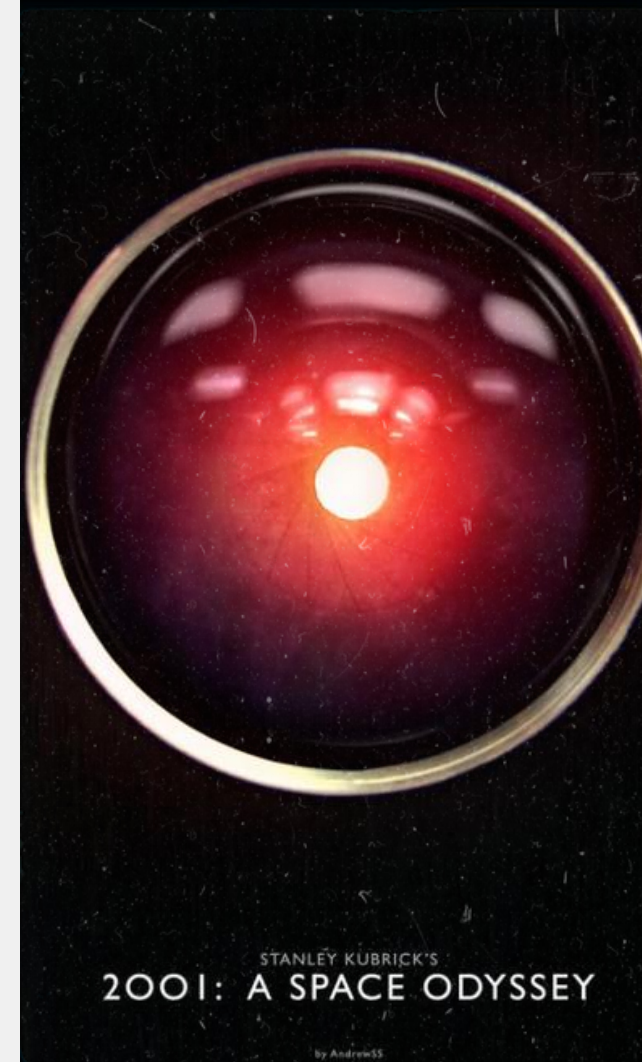
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ACTIVITY

Describe your ideal AI

What problem(s) do you
want AI solve for you at
work?



1. Describe your ideal AI

2. What problem(s) do you want AI solve for you at work?

MODALITIES



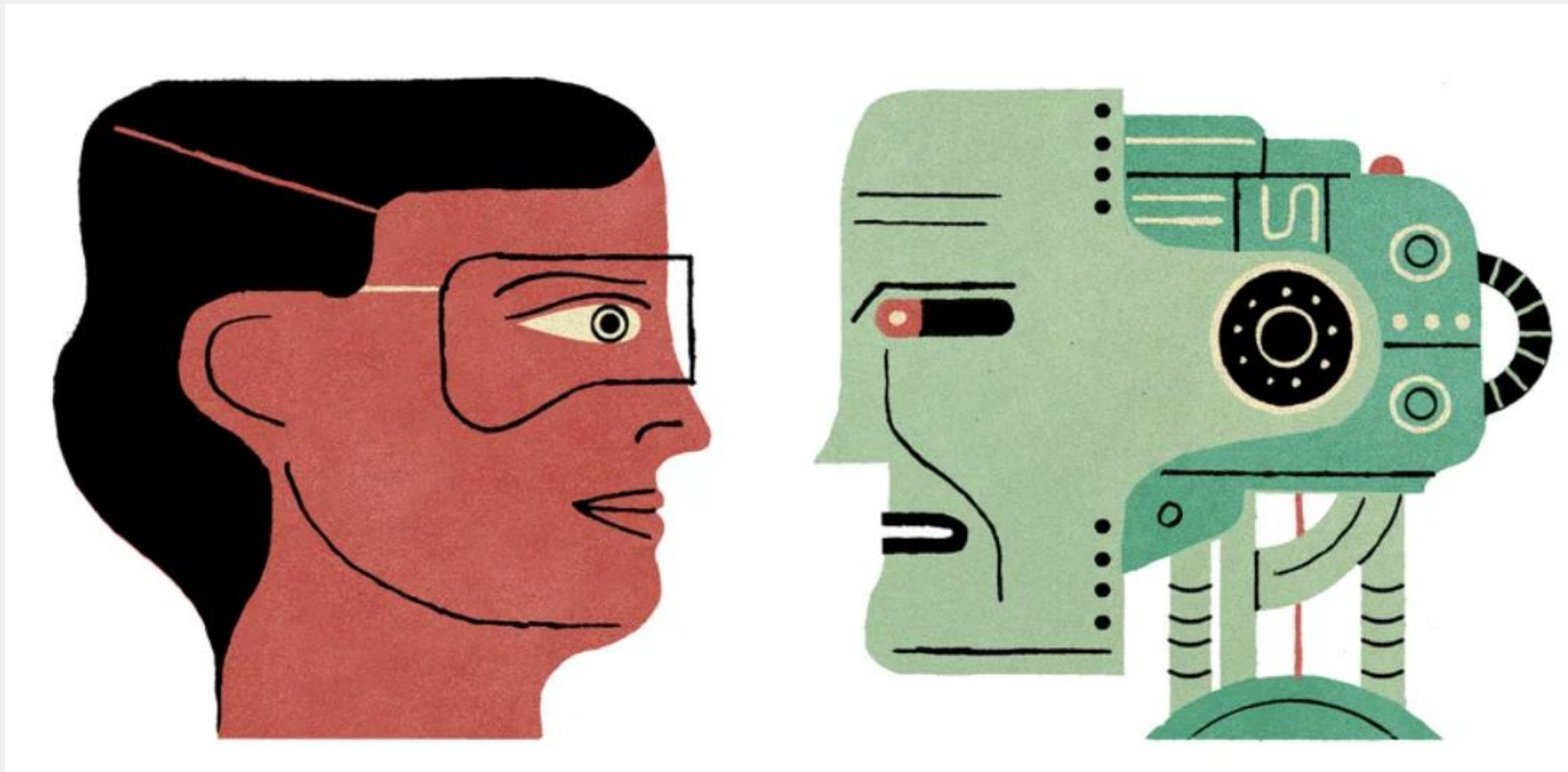
Parameters

- **Imagery?**
 - use only straight lines or curves
 - don't lift your writing device
 - 1 or 2 shapes
- **Text-based?**
 - use alliteration
 - write a haiku
 - short journal entry

SHARE OUT



Key Concepts

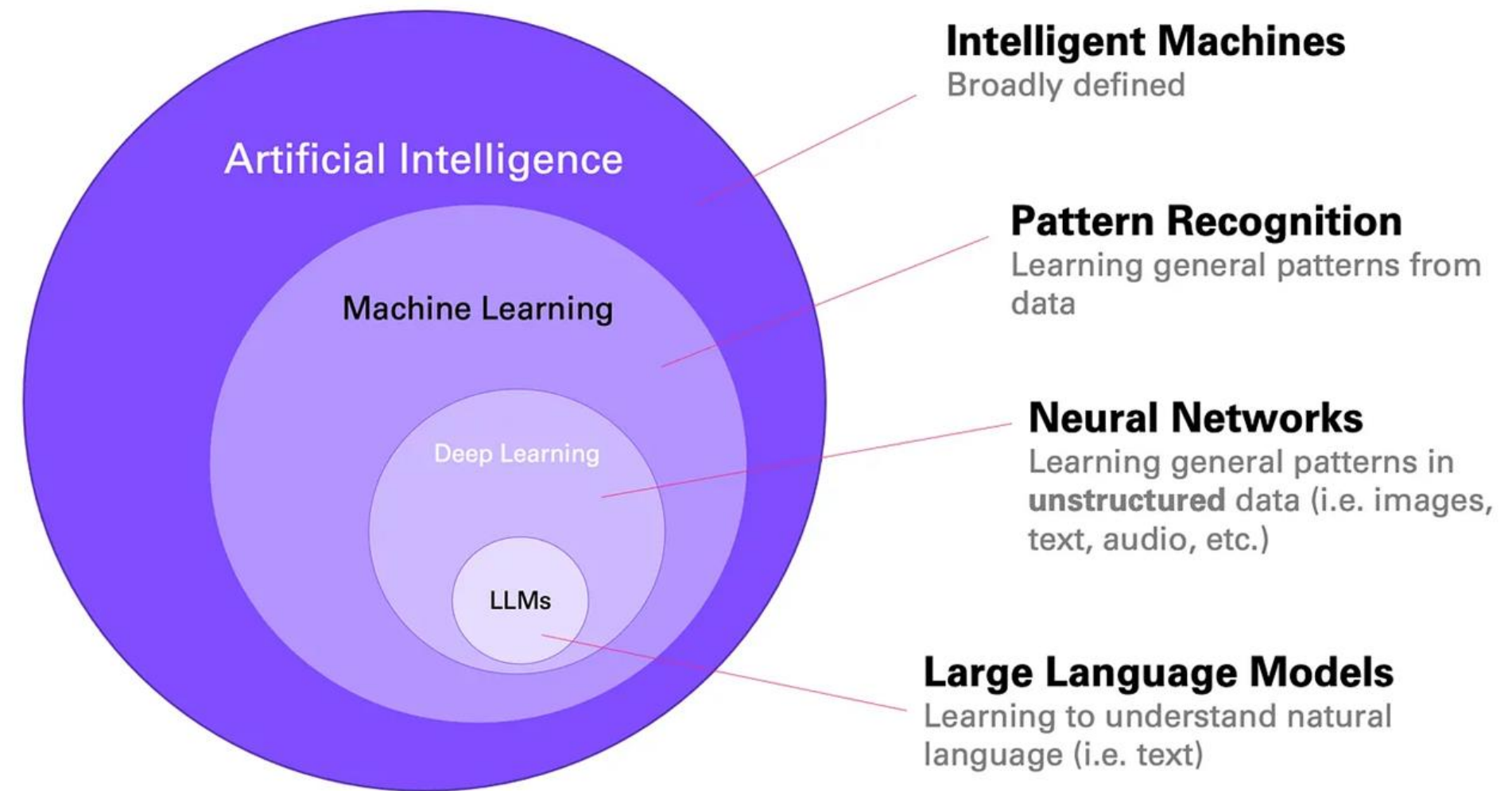


- What is Generative AI?
- Hallucinations
- Prompt Engineering
- Problem Formulation
- Agentic AI

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What is Generative AI?

- Generative AI refers to any AI system that can generate novel text, images, music, code, etc.
- We don't know exactly what data is used to train LLMs
- LLMs are both products of deep learning and a form of generative AI.



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Hallucinations

- When ai gets a little too creative and makes something up that is not factual
- “Speaking with great confidence about something it knows nothing about.” - Jensen Huang



Prompt Engineering

- Prompt engineering focuses on crafting the optimal textual input to get the desired response.
- Prompts are the commands you give to the ai chatbot to communicate what you would like it to do.

Problem Formulation

- In contrast with prompt engineering, problem formulation emphasizes defining the problem by delineating its focus, scope, and boundaries.
- Problem formulation is the ability to identify, analyze, and delineate problems.
- Without a well-formulated problem, even sophisticated prompts will fall short.

The image features three identical figures of Agent Smith from the movie The Matrix, arranged horizontally. They are wearing their signature black suits, white shirts, and black ties, along with their iconic black sunglasses. The background is a dark, teal-colored wall with horizontal lines. The text 'Agentic AI' is superimposed in the center in a large, white, sans-serif font. The entire image is framed by a white bar at the top and a magenta bar at the bottom.

Agentic AI



AI Agents

AI agents are advanced AI systems designed to autonomously reason, plan, and execute complex tasks based on high-level goals.

What Are AI Agents?

AI agents are the new digital workforce—working for and with us. They represent the next evolution in artificial intelligence, transitioning from simple automation to autonomous systems capable of managing complex workflows. These agents not only automate repetitive and time-consuming tasks but also empower individuals and organizations to operate more efficiently by acting as intelligent personal assistants.

Unlike traditional generative AI models that follow a basic “request-and-respond” framework, AI agents go beyond by orchestrating resources, collaborating with other agents and utilizing tools such as large language models (LLMs), retrieval augmented generation (RAG), vector databases, APIs, frameworks, and high-level programming languages like Python.



**Are there any key
concepts related to AI
that we missed?**

Table Discussion

**1. When you think about
generative AI, what are
you skeptical about?**

**2. What possibilities
are you excited about?**

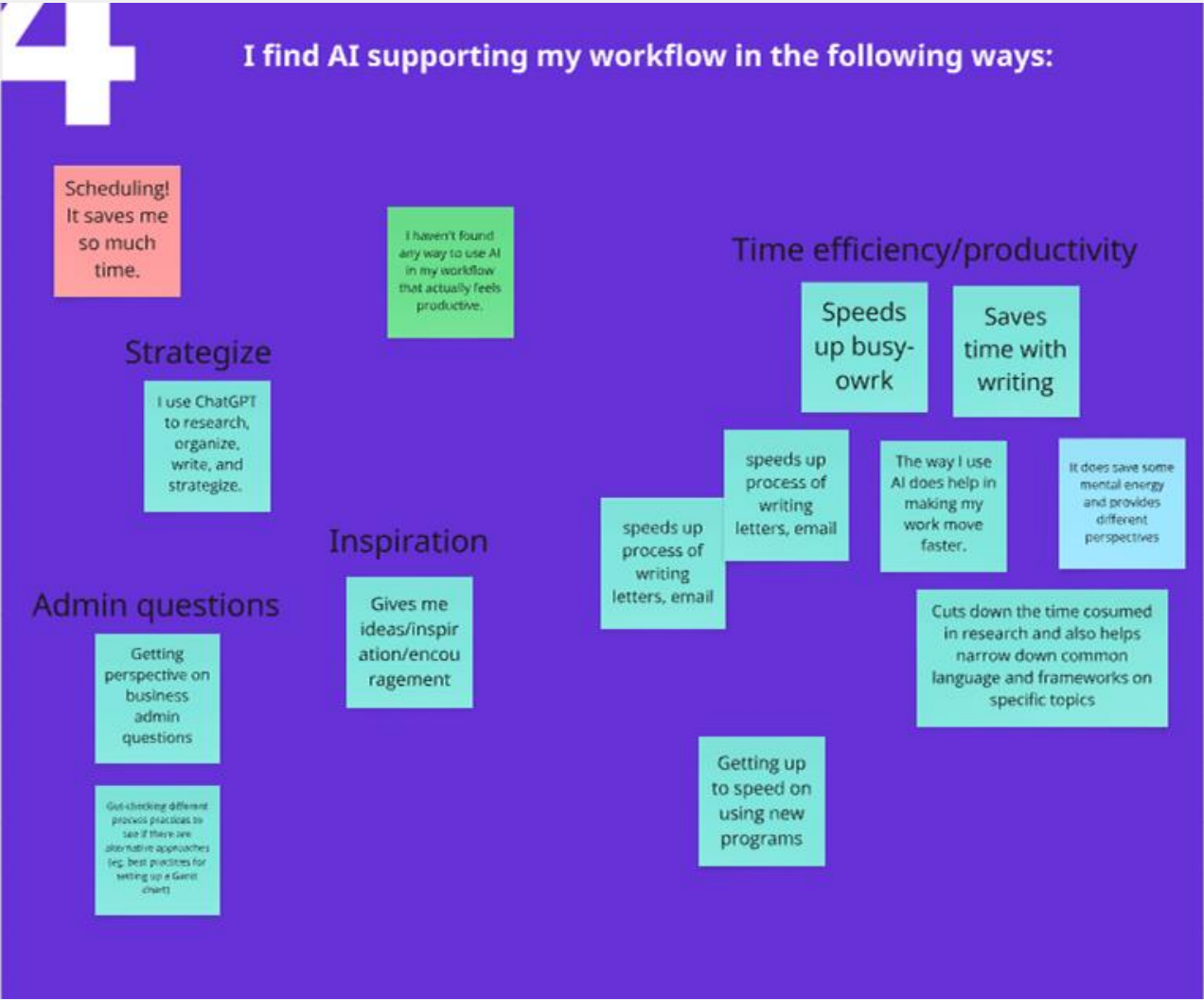
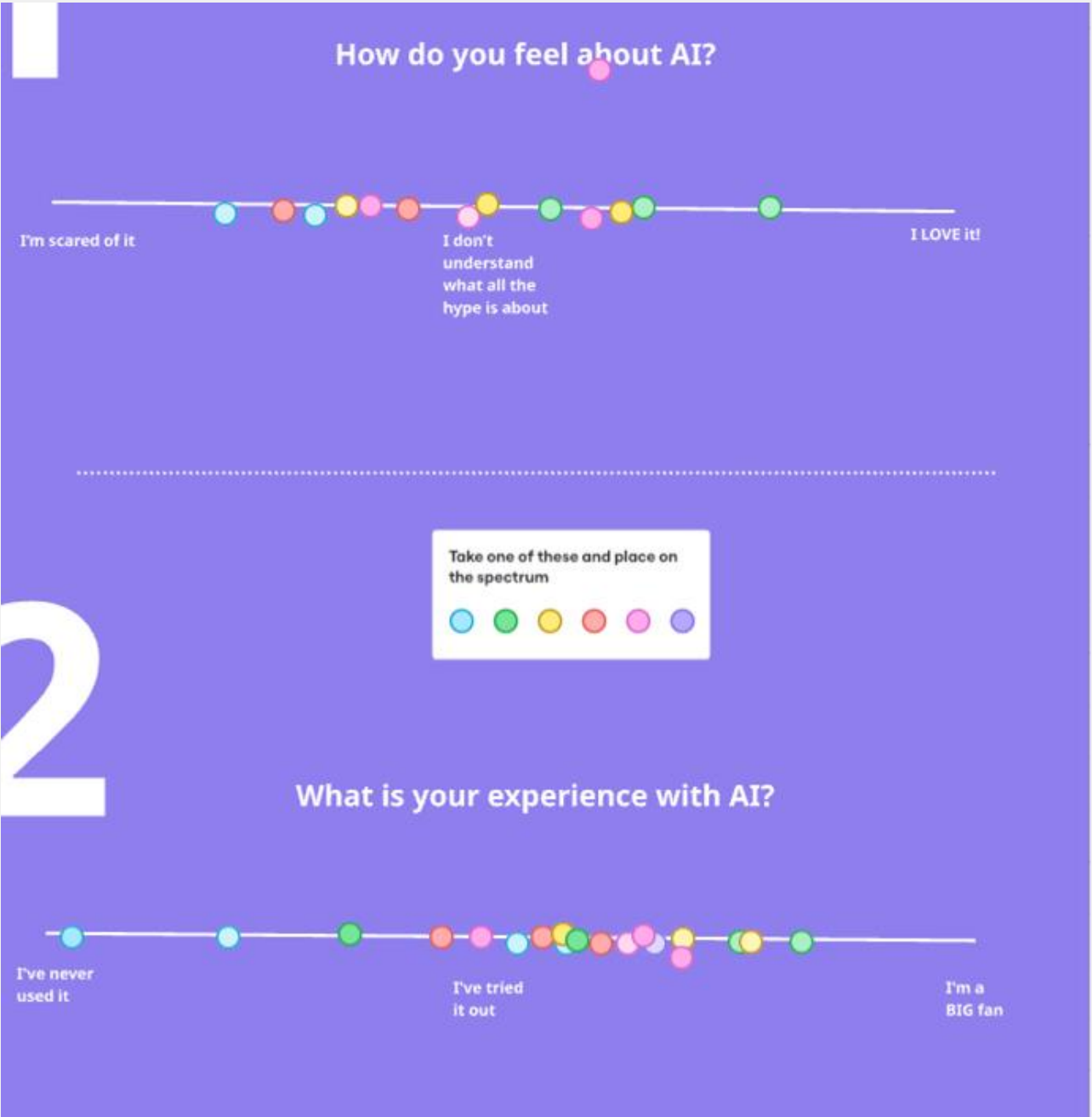
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Highlights from the whiteboard

Trends, Divergence, Insights

Use cases, comfort, questions



Let's pause and think about the problem more thoughtfully

AI Prompt Engineering Isn't the Future

June 6, 2023



Summary. Despite the buzz surrounding it, the prominence of prompt engineering may be fleeting. A more enduring and adaptable skill will keep enabling us to harness the potential of generative AI? It is called *problem formulation* — the ability to... **more**

Prompt engineering has taken the generative AI world by storm. The job, which entails optimizing textual input to effectively communicate with large language models, has been hailed by

Problem formulation framework



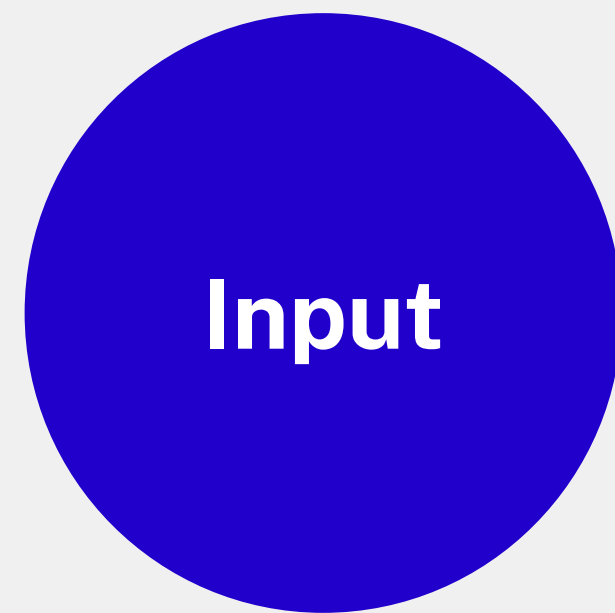
 **Problem constraint
design**

 **Diagnosis**

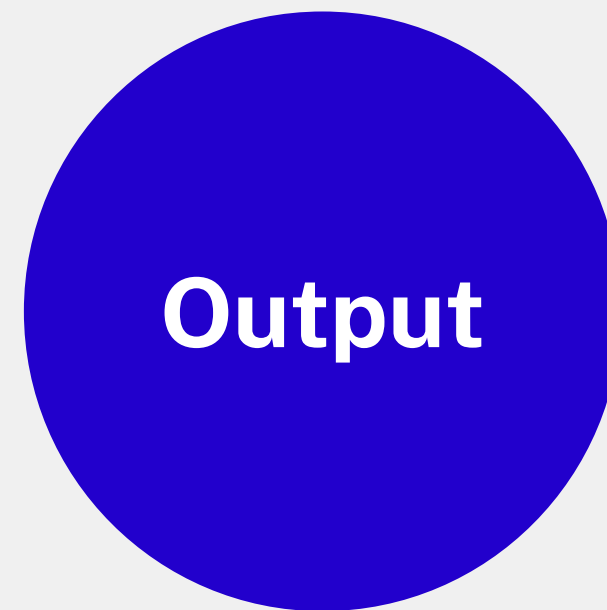
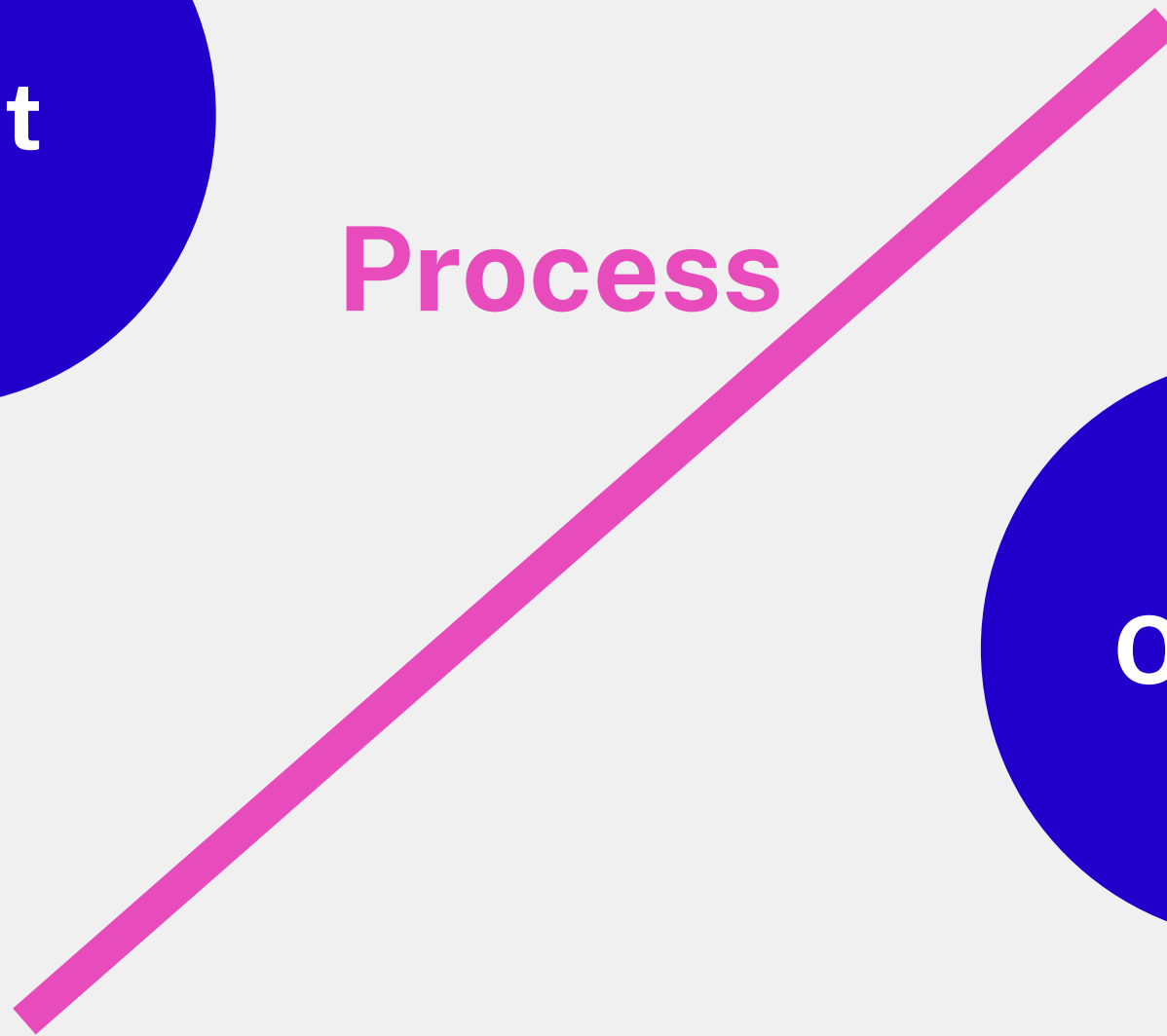
 **Decomposition**

 **Reframing**

Problem Constraint Design



Process



Define the
boundaries
of your
problem

Productivity = Rigid constraints
Creative = Reducing constraints

Sample Problem

Scenario

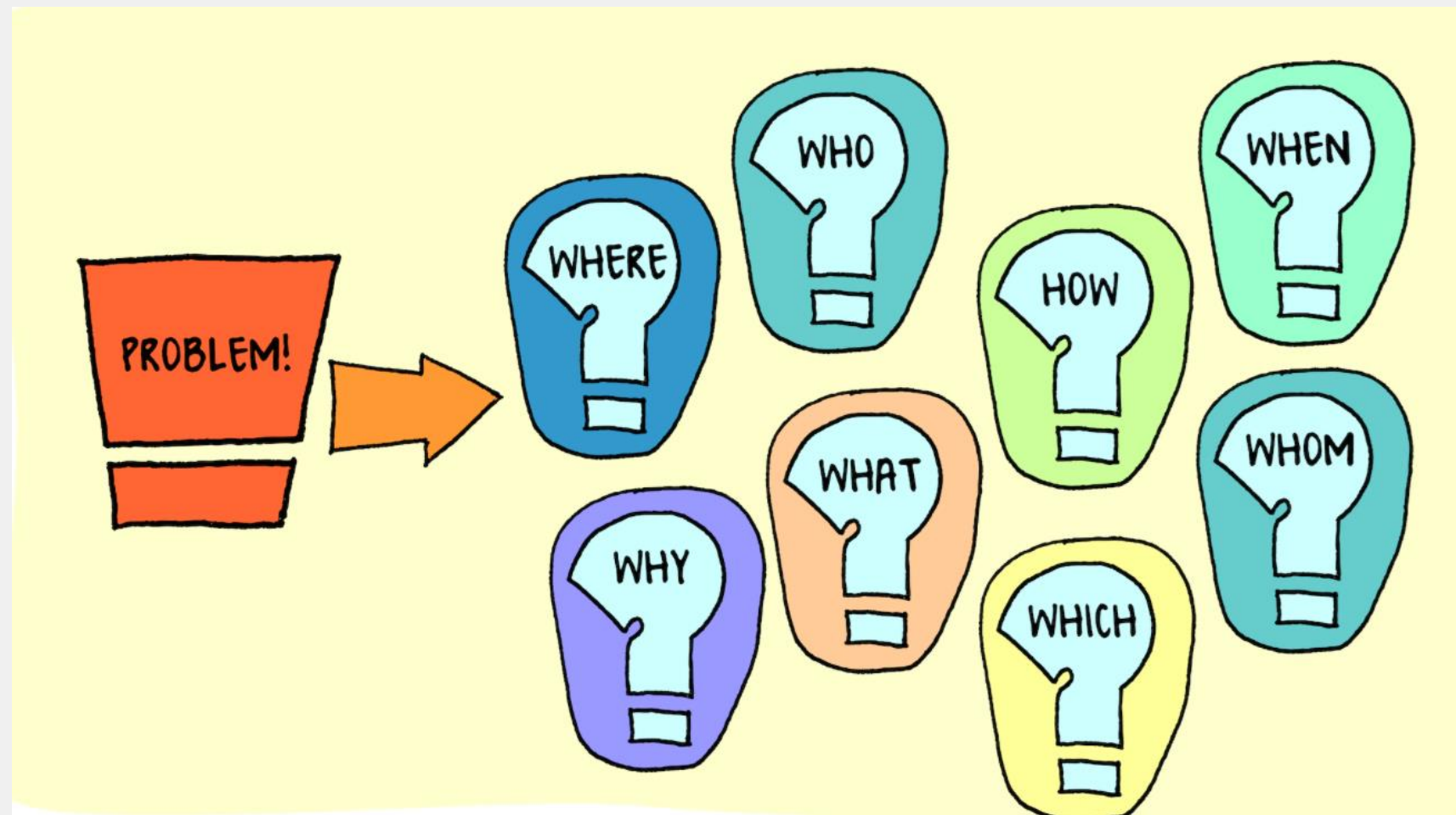
We're an art organization that uplifts BIPOC, youth artists locally. Our team is looking to launch a pride celebration campaign slated for June 2026.

The campaign must be accessible digitally and IRL. Our budget is \$100k.

What kind of campaign should we launch?

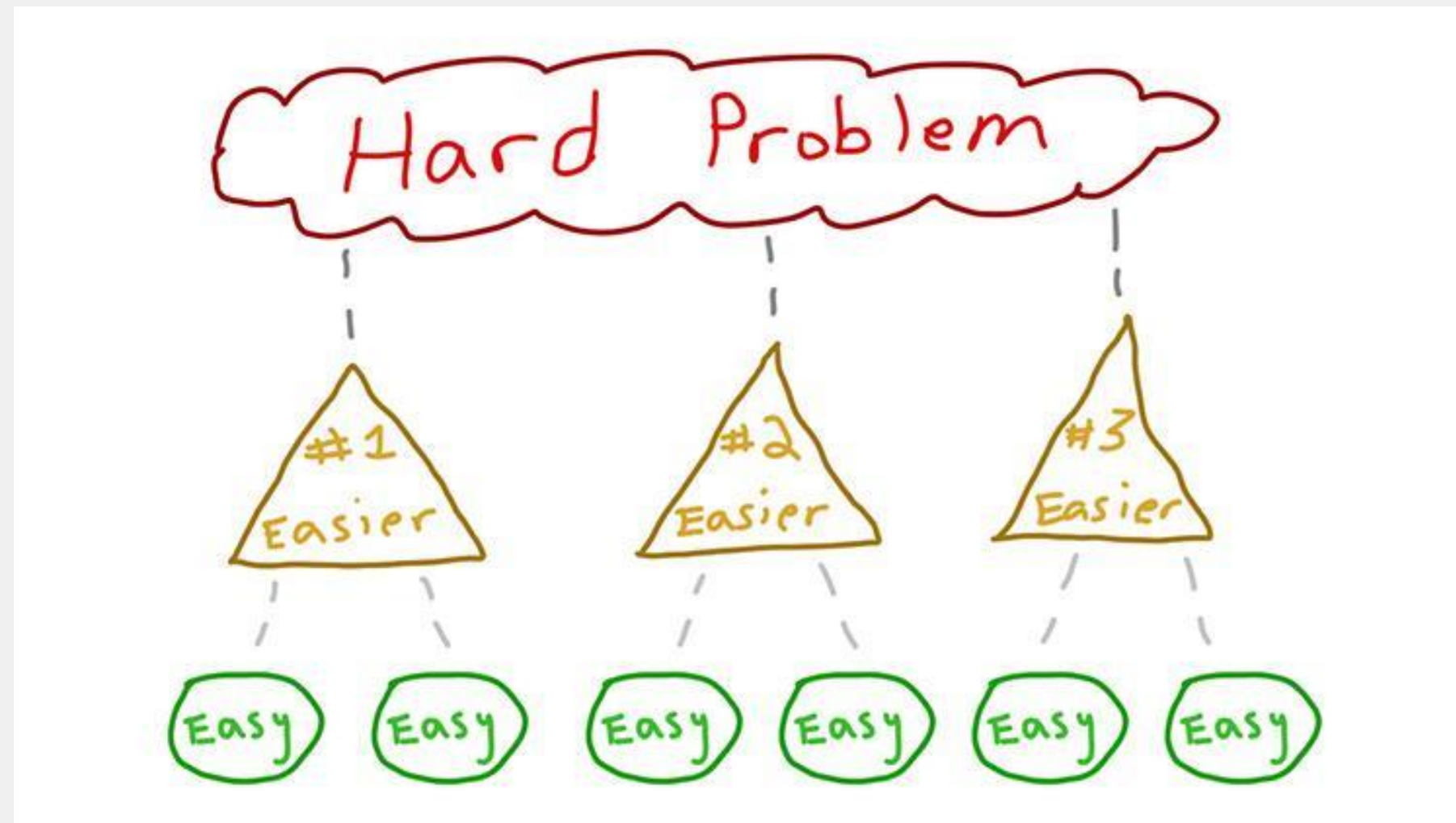
1. Problem Constraint Design
2. Diagnosis: 5 Whys
3. Decomposition: Focus on one aspect
4. Reframing: Look at it through different perspectives

Diagnosis

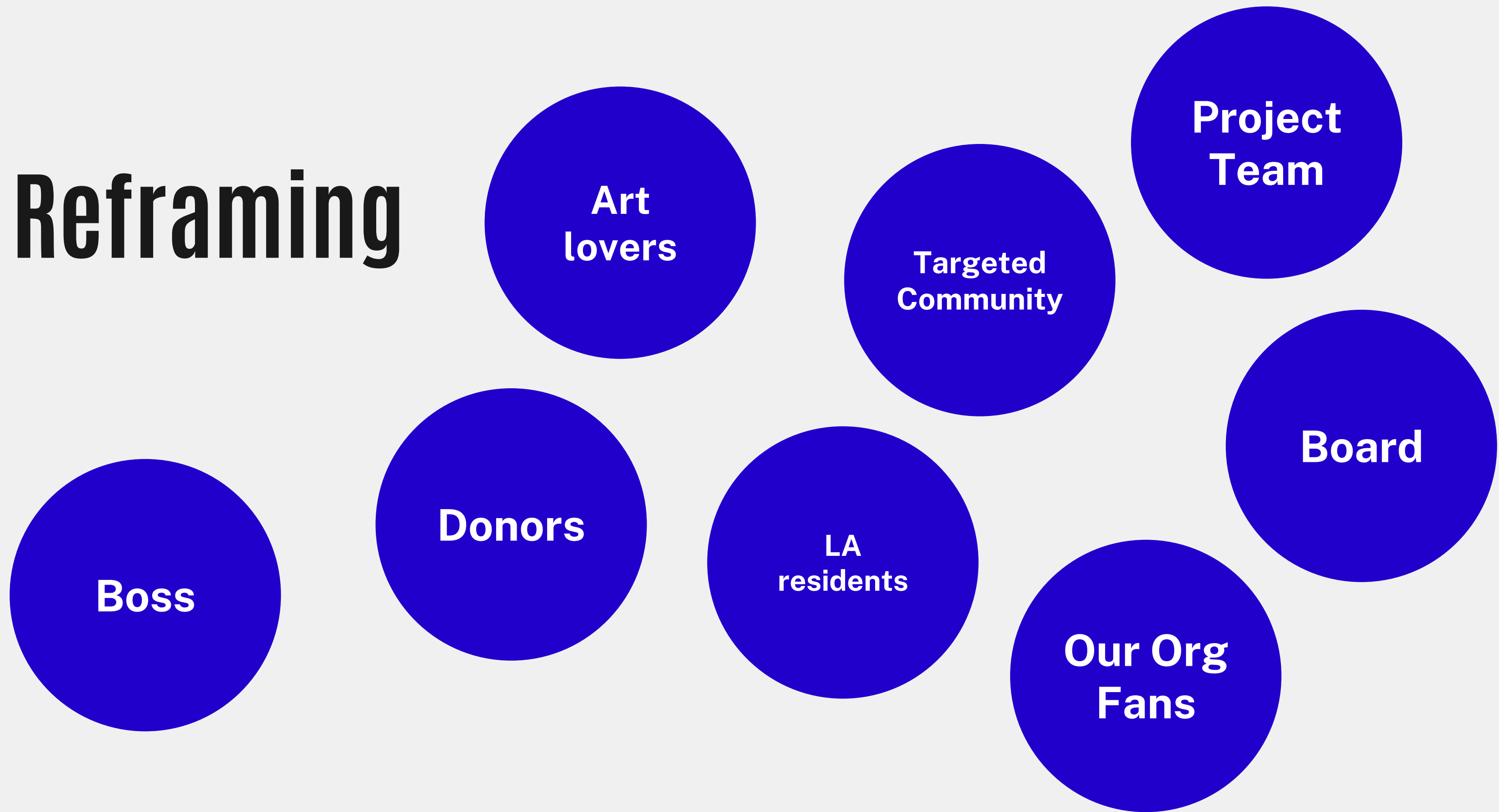


- Who
- What
- Where
- When
- Why
- How?

Decomposition



Reframing



Are there some voices that are more important?

Table Discussion

Our organization is actively working on our AI policy and in the meantime, many of our staff want to engage with this emerging technology. What are some ways that our arts organization can safeguard our proprietary information when using AI?

Your choice.

How can I use AI when I am editing my written work while still maintaining my organizational voice?

SHARE OUT

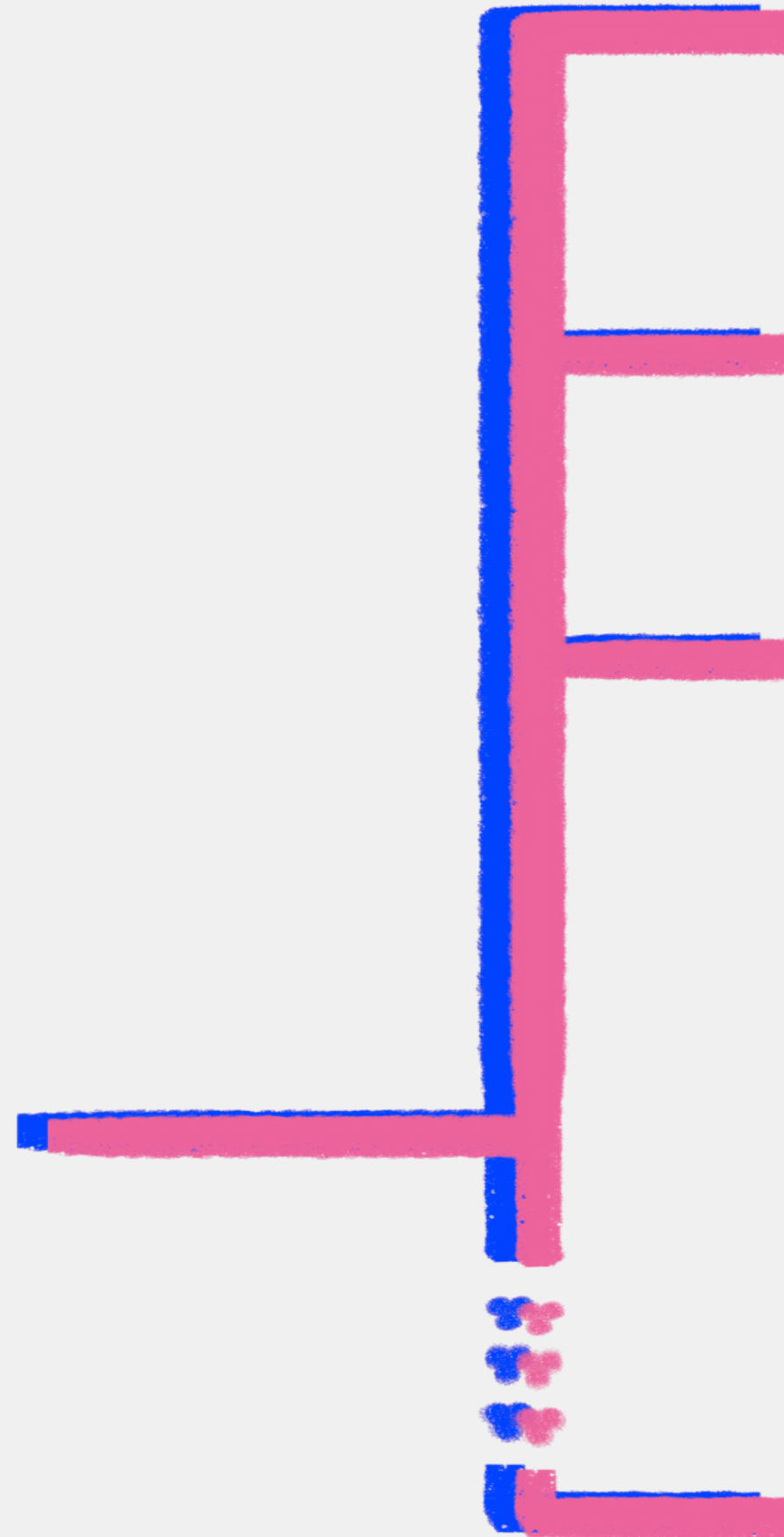


PROMPT ENGINEERING



promptingguide.ai

PROMPT ENGINEERING



Zero-shot, Few-shot

**Chain of Thought
(CoT)**

**Tree of Thought
(ToT)**

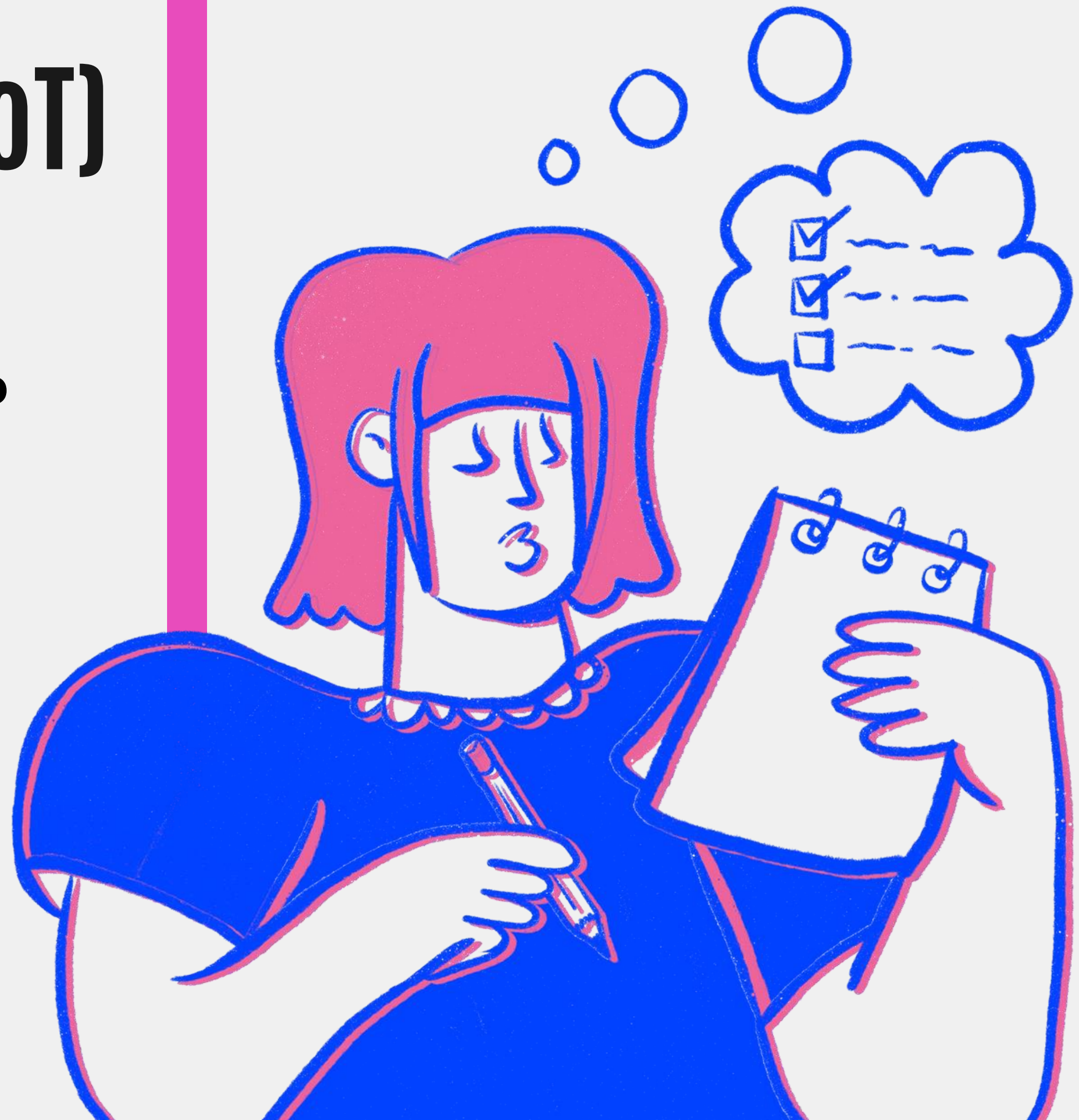
**Approximately
82 techniques**

Chain of Thought (CoT)

- Sequential problem solving
- Like asking an expert in the field to help solve something

Use cases

- Procedural tasks
- Outlining
- Tracking projects/To-do lists

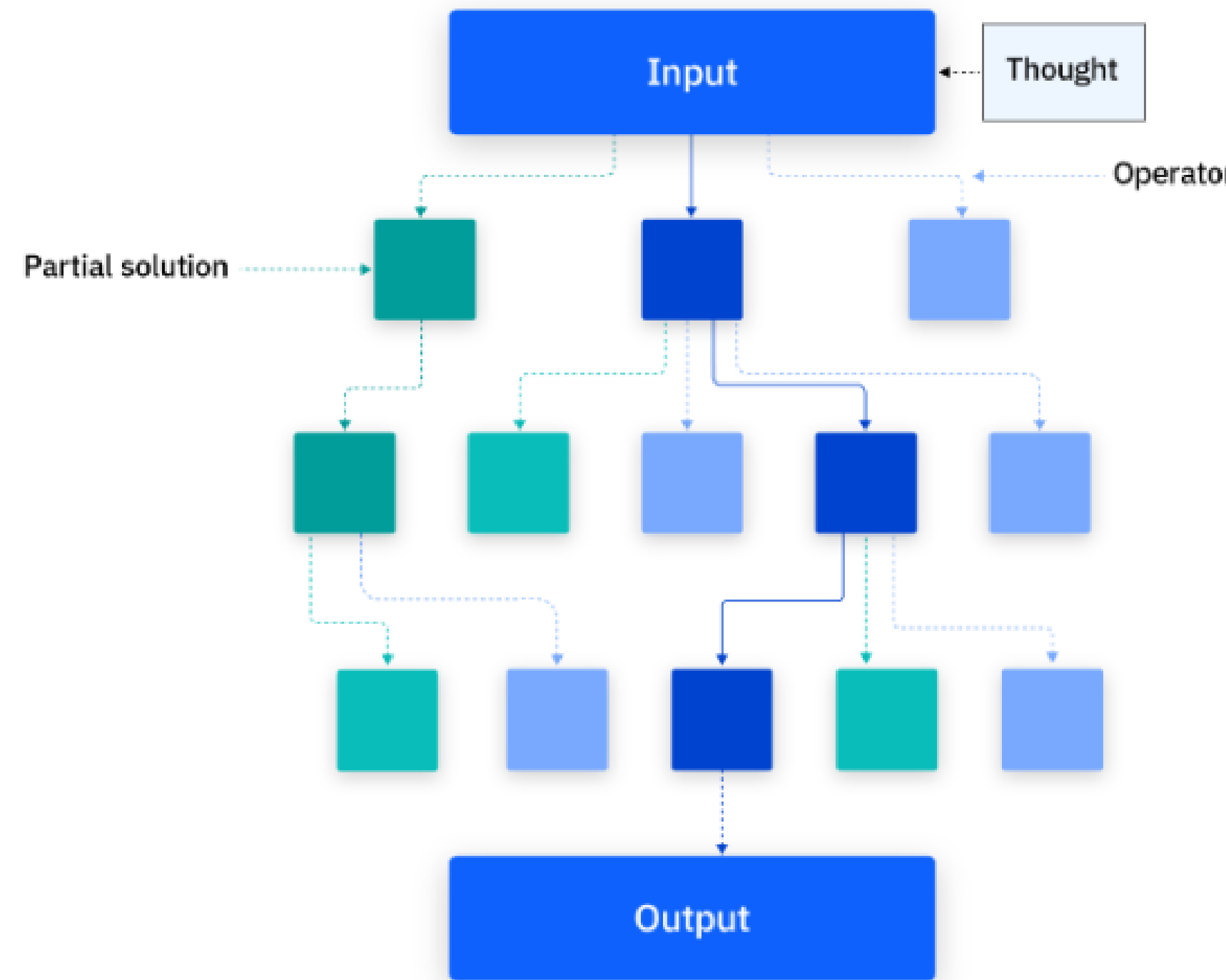


Tree of Thought (ToT)

- Explore multiples solutions (brainstorm), and at each step, evaluate if it might be the best solution.
- Like asking multiple experts from different fields to explore different solutions

Use cases

- Brainstorming/idea generation
- When have competing criterias for success



A single path in the tree yields the end solution

<https://www.ibm.com/think/topics/tree-of-thoughts>

Demo: AI, Take the Wheel

Chain of Thought (CoT)

Scenario

We're an art organization that uplifts BIPOC, youth artists locally. Our team is looking to launch a pride celebration campaign slated for June 2026.

Tree of Thought (ToT)

The campaign must be accessible digitally and IRL. Our budget is \$100k.

What prompt should we give our ai?

Demo: AI, Take the Wheel

Chain of Thought (CoT)

Scenario

We're an art organization that uplifts BIPOC, youth artists locally. Our team is looking to launch a pride celebration campaign slated for June 2026.

Tree of Thoughts (ToT)

The campaign must be accessible digitally and IRL. Our budget is \$100k.

What prompt should we give our ai?

Activity:

- Write out your process for how you would solve a problem or complete a task at work?
- Prompt AI to provide a set of considerations while solving a problem or completing a task at work using...
 - Chain of Thought and
 - Tree of Thoughts

Reflect:

- How the outputs of these two processes differ?
- How these two processes differ (You doing it vs AI doing it)?
- Is anything surprising to you?

Questions to Noodle on

- 1. Relationships.** What sort of relationship would you like to have with generative AI: Mentor? Teammate? Friend? Teacher?
- 1. Values.** What do you personally value as individuals? How can your values inform how you use AI?
- 1. Possibilities.** How can AI help us to dream and imagine a new version of this world?

**"I want AI to do my laundry and dishes
so I can do art and writing, not for AI to
do my art and writing so that I can do my
laundry and dishes"**

- Joanna Maciejewska