

a) Write a colab illustrating all the various prompt engineering techniques discussed in the class with gpt 4 or gpt 3.5

You should illustrate failure cases and how these are solved by various prompting techniques

include

- ICL
- CoT
- iCOT,
- TOT,
- GOT,
- AOT,
- RASCEF,
- REACT, ([https://til.simonwillison.net/llms/python-react-pattern#:~:text=The%20ReAct%20pattern%20\(for%20Reason,results%20back%20into%20the%20LLM.\)](https://til.simonwillison.net/llms/python-react-pattern#:~:text=The%20ReAct%20pattern%20(for%20Reason,results%20back%20into%20the%20LLM.)))  
forest of thoughts (with langchain - [https://www.linkedin.com/posts/richard-walker-a18528\\_forest-of-thoughts-boosting-large-language-activity-7073925128778067968-xAHN/](https://www.linkedin.com/posts/richard-walker-a18528_forest-of-thoughts-boosting-large-language-activity-7073925128778067968-xAHN/) )
- <https://github.com/mazewoods/tree-of-thought-ui>

b) Write 21 different prompt templates in class slides practical examples in colab (success and failure cases) - check slide deck etc.,. <https://www.promptingguide.ai/papers> 

and the below patterns from <https://arxiv.org/pdf/2302.11382.pdf>

TABLE I  
CLASSIFYING PROMPT PATTERNS

<b>Pattern Category</b>	<b>Prompt Pattern</b>
<b>Input Semantics</b>	<i>Meta Language Creation</i>
<b>Output Customization</b>	<i>Output Automater</i> <i>Persona</i> <i>Visualization Generator</i> <i>Recipe</i> <i>Template</i>
<b>Error Identification</b>	<i>Fact Check List</i> <i>Reflection</i>
<b>Prompt Improvement</b>	<i>Question Refinement</i> <i>Alternative Approaches</i> <i>Cognitive Verifier</i> <i>Refusal Breaker</i>
<b>Interaction</b>	<i>Flipped Interaction</i> <i>Game Play</i> <i>Infinite Generation</i>
<b>Context Control</b>	<i>Context Manager</i>

c) Pick 10 diverse fields (like hr, teaching, finance etc...) and write three very useful diverse prompts for each field with test cases.

Follow best practices in <https://help.openai.com/en/articles/6654000-best-practices-for-prompt-engineering-with-openai-api> 

d) Implement the <https://platform.openai.com/examples>  for palm 2 api.

in colab

e) write function calls api example colab usecase of openai

f) write system prompt example usecase of openai