

CSSE 315 – Natural Language Processing
 Rose-Hulman Institute of Technology

Worksheet 09

Name (Print): _____ Date: _____

1. Define the following terms:

1. SFT
2. RLHF
3. Distilled models (distillation)
4. Few shot prompting

2. Chain of Thought (CoT) is a prompting technique for improving the _____ of LLMs by generating _____ reasoning steps

3. True/False: Tree of THought (ToT) explores multiple reasoning paths simultaneously, rather than just following a single linear chain of thought

4. ReAct prompting works by combining _____ and _____ into a thought-action loop

5. Identify the steps of ReAct:

Step	Definition
	The AI model generates a thought about the problem
	the model takes an action (ex. performing a calculation, searching for information)
	This is the result or feedback the model receives

6. Assign step (thought, act, obs) to each example:

1. _____ : I need to find the capital of France.
2. _____ : Search for "capital of France".
3. _____ : The capital of France is Paris.
4. _____ : I now know the answer to the question.
5. _____ : Provide the answer: "Paris".

7. Practice ReAct

1. Go to <https://hyperskill.org/learn/step/45335>
2. Copy the example of ReAct prompt (about the healthy meal)
3. Go to the reasoning model chatGPT

4. Start your prompt with "You are my assistant. Follow this ReAct example when you answer my questions. [Paste the ReAct prompt]"
5. Ask a reasonably hard question and check the output

What was your question:

Did the model provide a good response:

8. GenAI is an application that attempts to achieve a goal by _____ the world and _____ upon it using _____ that it has at its disposal
9. List types of models that can be used for genAI Agents:
10. Select the logical framework that can be used with genAI agent models:
 - (a) zero-shot
 - (b) CoT
 - (c) ToT
 - (d) chatGPT-4
 - (e) ReAct
11. True/False Tools help foundational models interact with the world
12. What is the typical form used by tools?
13. What is the orchestration layer?
14. True/False the orchestration layer is an infinite loop
15. Watch the DeepSeek podcast (watch the first 12 min). Provide 3 main takeaways from what you learned

1:

2:

3: