

Quiz 1

- Select the correct option: GPT-3 is a ____-gram model. (15 marks)
a.. 1024 b. 2048
c. 4096 d. 8192
- In one line, explain why hallucinations can still occur in LLMs despite using advanced prompting techniques like Chain of Thought (CoT). (15 marks)
- In one sentence, explain how **Self-Verification helps reduce factual errors** in an LLM's output. (15 marks)
- True or False:** Advanced prompting techniques (such as Chain of Thought and Self-Ask) can enhance an LLM's reasoning but may also **amplify biases** from training data, leading to **more persuasive yet incorrect responses** when the initial reasoning is flawed. Provide a **one-line explanation**. (15 marks)
- Match the following (40 marks)

Prompting Technique	Primary Function/Characteristic
a. Zero-Shot CoT	1. Prompts the model to create a variety of reasoning paths on its own, then integrate the best results
b. Auto-CoT	2. Asks follow-up questions to refine the model's understanding and its final output
c. Self-Ask	3. Provides a step-by-step explanation <i>in one prompt</i> without any additional examples
d. Program of Thoughts (PoT)	4. Uses code-like structures or “scripts” to break down and solve tasks methodically
e. Tree of Thoughts	5. Explores branching pathways to evaluate multiple partial solutions hierarchically

Answers:

1. 2048
2. Because LLMs rely on probabilistic text generation and incomplete training data, they can confidently generate factually incorrect statements, leading to hallucinations despite structured reasoning prompts.
3. Self-verification has the model revisit or question its own answer, checking for inconsistencies or factual inaccuracies before finalizing the response.
4. True - Because LLMs rely on probabilistic generation and may contain inherent biases, any technique that structures or extends the model's reasoning (e.g., CoT, Self-Ask) can produce more detailed—but potentially biased or factually incorrect—responses if the foundational assumptions or data are flawed (incorrect).
5. Matchings:
 - a. Zero-Shot COT → 3
 - b. Auto-CoT → 1
 - c. Self-ask → 2
 - d. Program of Thoughts → 4
 - e. Tree of Thoughts → 5