

Temperature-Guided Reasoning Demonstration

Problem Statement

A store has a 30% discount on an \$80 item, then adds 8% tax. What is the final price?

Analyze Problem

Token Temperature Visualization



Step 1: Initial problem analysis

Hot Tokens: A, store, has, a, 30%, discount, on, an, \$80, item, then, adds, 8%, tax, What, is, the, final, price

Reset

Previous Step

Play

Next Step

Animation Speed: 1500ms

Temperature Evolution

Temperature evolution chart (simplified version)

☐ Show Comparison with Chain-of-Thought

Implementation Notes

This demonstration implements the Token Temperature Mechanism (TTM) and Guided Sequence of Thought (GSoT) described in "Guidance is All You Need: Temperature-Guided Reasoning in Large Language Models." The visualization shows how token temperatures guide the reasoning process, highlighting important "hot" tokens and creating optimized reasoning paths.

Key features implemented from the paper:

- Token temperature calculation via sigmoid activation (Section 3.6)
- Temperature-guided attention for reasoning path selection (Section 5)
- Discrete temperature evolution across reasoning steps (Section 3.3)
- Dynamic adaptation of temperature values based on reasoning progress (Section 3.7)
- Comparative visualization of computational efficiency vs Chain-of-Thought (Section 7)