

Chain-of-Thought Implementation

Teaching LLMs to Think Step-by-Step

Problem Example

A restaurant sold 42 pizzas on Monday, 38 on Tuesday, and 51 on Wednesday. If each pizza costs \$18, what was the total revenue for these three days?

Reasoning Steps Visualization

Step 1: $42 + 38 + 51 = 131$ total pizzas

Step 2: $131 \times \$18 = \$2,358$ total revenue

Chain-of-Thought Prompt

```
def solve_with_reasoning(problem):  
    prompt = f"""Solve this step-by-step. Show  
your reasoning:
```

```
    Problem: {problem}
```

```
    Step 1: Identify what we know  
    Step 2: Determine what we need to find  
    Step 3: Plan the solution approach  
    Step 4: Execute calculations  
    Step 5: Verify the answer
```

```
    Let's work through this:"""
```


```
    response = litellm.completion(  
        model="gpt-3.5-turbo",  
        messages=[{"role": "user", "content":  
prompt}],  
        temperature=0.2  
    )  
    return response.choices[0].message.content
```

Practice Problems

- ✓ Logic puzzles
- ✓ Multi-step math problems
- ✓ Causal analysis tasks

Benefits

- ✓ Improved accuracy on complex tasks
- ✓ Transparent and auditable reasoning
- ✓ Better general problem-solving ability

 20-25 minutes

Lab Step 12/17

 Logical Reasoning