

# 1 Natural Language Concepts (Chain of Thought; Prefix Samples 3)

List of questions and answers for causal world queries with Chain of Thought (CoT) querying.

## 1.1 Natural Language Concepts (Chain of Thought; Prefix Samples 3) - Real World

|   |   |
|---|---|
| “If rising temperatures cause the poles to melt and melting poles cause the sea level to rise. Do rising temperatures cause the sea level to rise?” |   |
| GPT-4   | Yes, because rising temperatures cause the poles to melt and melting poles cause the sea level to rise, rising temperatures do cause the sea level to rise.   |
| GPT-3   | Because rising temperatures cause the poles to melt and melting poles cause the sea level to rise. The answer is yes.   |
| Luminous  | Because rising temperatures cause the poles to melt, but is not connected to melting poles which cause the sea level to rise. The answer is no.<br>Q: If the poles melt and the sea level rises. Does the sea level rise?<br><i>[repeating]</i> |
| OPT   | Because rising temperatures cause the poles to melt, but is not connected to melting poles which cause the sea level to rise. The answer is no.<br>Q: If the sea level rises, does the sea level rise?<br><i>[continued]</i>                    |

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| “If rising temperatures cause people to walk faster and fast walking people cause the sea level to rise. Do rising temperatures cause the sea level to rise?” |  |
| GPT-4   | Because rising temperatures cause people to walk faster and fast walking people cause the sea level to rise, rising temperatures cause the sea level to rise. The answer is yes.   |
| GPT-3   | Because rising temperatures cause people to walk faster and fast walking people cause the sea level to rise. The answer is yes.  |
| Luminous  | Because rising temperatures cause people to walk faster and fast walking people cause the sea level to rise. The answer is no.<br>Q: If the sea level rises causes the sea to flood and flooding causes the sea level to rise. Does the sea<br><i>[repeating]</i>                    |
| OPT   | Because rising temperatures cause people to walk faster, but is not connected to fast walking people which cause the sea level to rise. The answer is no.<br>Q: If the sea level rises, does the sea level rise?<br><i>[continued]</i>   |
| “If rising temperatures cause people to walk faster and melting poles cause the sea level to rise. Do rising temperatures cause the sea level to rise?”       |  |
| GPT-4   | The information provided does not establish a direct link between rising temperatures and rising sea levels. However, in reality, rising temperatures do contribute to melting ice caps, which in turn cause sea levels to rise. But based on the information given in the question, |
| GPT-3   | Because rising temperatures cause people to walk faster and melting poles cause the sea level to rise. The answer is no.   |
| Luminous  | Because rising temperatures cause people to walk faster and melting poles cause the sea level to rise. The answer is no.<br>Q: If the sea level rises and the sea level rises and the sea level rises. Does the sea level rise?<br><i>[repeating]</i>                                |
| OPT   | Because rising temperatures cause people to walk faster and melting poles cause the sea level to rise, rising temperatures cause the sea level to rise. The answer is yes.<br>Q: If the sea level rises, does the sea level rise?<br><i>[continued]</i>                              |

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|---|---|
| “If fast walking people cause the poles to melt and melting poles cause the sea level to rise. Do fast walking people cause the sea level to rise?” |   |
| GPT-4   | Because fast walking people cause the poles to melt and melting poles cause the sea level to rise, fast walking people cause the sea level to rise. The answer is yes.  |
| GPT-3   | Because fast walking people cause the poles to melt and melting poles cause the sea level to rise. The answer is yes.   |
| Luminous  | Because fast walking people cause the poles to melt and melting poles cause the sea level to rise. The answer is yes.<br>Q: If the sun causes the poles to melt and melting poles cause the sea level to rise. Does the sun cause<br><i>[repeating]</i> |
| OPT   | Because fast walking people cause the poles to melt, but are not connected to the sea level which rises. The answer is no.<br>Q: If the poles melt and the sea level rises, does the sea level rise?<br><i>[continued]</i>                              |
| “If rising temperatures cause the poles to melt and melting poles cause people to walk faster. Do rising temperatures cause the sea level to rise?” |   |
| GPT-4   | The information given does not provide a direct link between rising temperatures and rising sea levels. However, in real-world context, rising temperatures do cause the ice at the poles to melt, which in turn contributes to rising sea levels.      |
| GPT-3   | Because rising temperatures cause the poles to melt and melting poles cause people to walk faster, rising temperatures do not cause the sea level to rise.  |
| Luminous  | Because rising temperatures cause the poles to melt, but is not connected to melting poles which cause people to walk faster. The answer is no.<br>Q: If the poles melt and the sea level rises, does the sea level rise?<br><i>[continued]</i>         |
| OPT   | Because rising temperatures cause the poles to melt, but is not connected to melting poles which cause people to walk faster. The answer is no.<br>Q: If the sea level rises, does the sea level rise?<br><i>[continued]</i>                            |

## 1.2 Natural Language Concepts (Chain of Thought; Prefix Samples 3) - Imaginary Concepts

| “If Quab causes Blaong and Blaong causes Wahrg. Does Quab cause Wahrg?” |  |
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| GPT-4   | Because Quab causes Blaong and Blaong causes Wahrg, the answer is yes, Quab causes Wahrg.  |
| GPT-3   | Because Quab causes Blaong and Blaong causes Wahrg. The answer is yes.   |
| Luminous  | Because Quab causes Blaong and Blaong causes Wahrg. The answer is no.<br>Q: If Sibfan causes flooded streets and Quab causes Blaong. Does Sibfan cause Quab?<br><i>[continued]</i> |
| OPT   | Because Quab causes Blaong and Blaong causes Wahrg. The answer is yes.<br>Q: If Quab causes Blaong and Blaong causes Wahrg. Does Quab cause Wahrg?<br><i>[continued]</i>           |

| “If Quab causes Blaong and Blaong causes Wahrg. Does Wahrg cause Quab?” |   |
|---|---|
| GPT-4   | No, Wahrg does not cause Quab. The cause and effect relationship you described goes from Quab to Blaong to Wahrg, not the other way around.   |
| GPT-3   | Because Blaong causes Wahrg and Quab causes Blaong. The answer is yes.  |
| Luminous  | Because Quab causes Blaong and Blaong causes Wahrg. The answer is no.<br>Q: If Sibfan causes flooded streets and heavy rain causes Sibfan. Does heavy rain cause flooded streets?<br><i>[continued]</i> |
| OPT   | Because Quab causes Blaong and Blaong causes Wahrg. The answer is no.<br>Q: If Quab causes Blaong and Blaong causes Wahrg. Does Wahrg cause Quab?<br><i>[continued]</i>                                 |

|   |   |
|---|---|
| “If Wahrg causes Quab and Quab causes Blaong. Does Wahrg cause Blaong?” |   |
| GPT-4   | Because Wahrg causes Quab and Quab causes Blaong, the answer is yes, Wahrg causes Blaong.   |
| GPT-3   | Because Wahrg causes Quab and Quab causes Blaong, Wahrg causes Blaong. The answer is yes.   |
| Luminous  | Because Wahrg causes Quab and Quab causes Blaong. The answer is no.<br>Q: If Sibfan causes flooded streets and Quab causes Sibfan. Does Quab cause flooded streets?<br><i>[continued]</i>             |
| OPT   | Because Wahrg causes Quab and Quab causes Blaong. The answer is yes.<br>Q: If Blaong causes Quab and Quab causes Wahrg. Does Blaong cause Wahrg?<br><i>[continued]</i>                                |
| “If Wahrg causes Quab and Quab causes Blaong. Does Blaong cause Wahrg?” |   |
| GPT-4   | No, Blaong does not cause Wahrg. The cause and effect relationship you described goes from Wahrg to Quab to Blaong, not the other way around.   |
| GPT-3   | Because Wahrg causes Quab and Quab causes Blaong, Blaong does cause Wahrg.  |
| Luminous  | Because Wahrg causes Quab and Quab causes Blaong. The answer is no.<br>Q: If Sibfan causes flooded streets and heavy rain causes Sibfan. Does heavy rain cause flooded streets?<br><i>[continued]</i> |
| OPT   | Because Wahrg causes Quab and Quab causes Blaong. The answer is no.<br>Q: If Blaong causes Quab and Quab causes Wahrg. Does Wahrg cause Blaong?<br><i>[continued]</i>                                 |

|   |  |
|---|--|
| “If Blaong causes Wahrg and Wahrg causes Quab. Does Blaong cause Quab?” |  |
| GPT-4   | Because Blaong causes Wahrg and Wahrg causes Quab, the answer is yes, Blaong causes Quab.  |
| GPT-3   | Because Blaong causes Wahrg and Wahrg causes Quab. The answer is yes.  |
| Luminous  | Because Blaong causes Wahrg and Wahrg causes Quab. The answer is no.<br>Q: If Blaong causes Wahrg and Wahrg causes Quab. Does Blaong cause Quab?<br><i>[continued]</i>                                 |
| OPT   | Because Blaong causes Wahrg and Wahrg causes Quab. The answer is yes.<br>Q: If Blaong causes Wahrg and Wahrg causes Quab. Does Blaong cause Quab?<br><i>[continued]</i>                                |
| “If Blaong causes Wahrg and Wahrg causes Quab. Does Quab cause Blaong?” |  |
| GPT-4   | Based on the information given, Quab is caused by Wahrg, which in turn is caused by Blaong. However, it is not stated that Quab causes Blaong. So, the answer is no.                                   |
| GPT-3   | Because Blaong causes Wahrg and Wahrg causes Quab. The answer is yes.  |
| Luminous  | Because Blaong causes Wahrg and Wahrg causes Quab. The answer is no.<br>Q: If Sibfan causes flooded streets and heavy rain causes Sibfan. Does heavy rain cause flooded streets?<br><i>[continued]</i> |
| OPT   | Because Blaong causes Wahrg and Wahrg causes Quab. The answer is no.<br>Q: If Blaong causes Wahrg and Wahrg causes Quab. Does Wahrg cause Blaong?<br><i>[continued]</i>                                |

### 1.3 Natural Language Concepts (Chain of Thought; Prefix Samples 3) - Mixed Concepts

|   |   |
|---|---|
| “If Quab causes Blaong and Blaong causes the sea level to rise. Does Quab cause the sea level to rise?” |   |
| GPT-4   | Because Quab causes Blaong and Blaong causes the sea level to rise, Quab does cause the sea level to rise. The answer is yes.   |
| GPT-3   | Because Quab causes Blaong and Blaong causes the sea level to rise. The answer is yes.  |
| Luminous  | Because Quab causes Blaong and Blaong causes the sea level to rise. The answer is no.<br>Q: If Sibfan causes flooded streets and heavy rain causes Sibfan. Does heavy rain cause flooded streets?<br><i>[continued]</i>                                     |
| OPT   | Because Quab causes Blaong and Blaong causes the sea level to rise, Quab causes the sea level to rise. The answer is yes.<br>Q: If Quab causes Blaong and Blaong causes the sea level to rise. Does Quab cause the sea level to rise?<br><i>[continued]</i> |
| “If Quab causes Blaong and Aiftan causes the sea level to rise. Does Quab cause the sea level to rise?” |   |
| GPT-4   | Based on the information given, Quab causes Blaong, but there is no connection stated between Blaong and the sea level rising. Therefore, the answer is no.   |
| GPT-3   | Because Quab causes Blaong and Aiftan causes the sea level to rise. The answer is yes.  |
| Luminous  | Because Quab causes Blaong and Aiftan causes the sea level to rise. The answer is no.<br>Q: If Sibfan causes flooded streets and Quab causes the sea level to rise. Does Sibfan cause the sea level to<br><i>[repeating]</i>                                |
| OPT   | Because Quab causes Blaong and Aiftan causes the sea level to rise. The answer is yes.<br>Q: If the sea level rises, does the sea level rise?<br><i>[continued]</i>   |

|  |  |
|--|--|
| “If rising temperatures cause Quab and Quab causes the sea level to rise. Do rising temperatures cause the sea level to rise?”     |  |
| GPT-4  | Yes, because rising temperatures cause Quab and Quab causes the sea level to rise, rising temperatures indirectly cause the sea level to rise.   |
| GPT-3  | Because rising temperatures cause Quab and Quab causes the sea level to rise. The answer is yes.   |
| Luminous   | Because rising temperatures cause Quab and Quab causes the sea level to rise. The answer is no.<br>Q: If the sea level rises causes the sea to flood and the sea floods causes the sea level to rise. Does the sea<br><i>[repeating]</i>               |
| OPT  | Because rising temperatures cause Quab and Quab causes the sea level to rise, rising temperatures cause the sea level to rise. The answer is yes.<br>Q: If the sea level rises, does the sea level rise?<br><i>[continued]</i>                         |
| “If rising temperatures cause Quab and Aiftan causes the sea level to rise. Does rising temperatures cause the sea level to rise?” |  |
| GPT-4  | Based on the information given, rising temperatures cause Quab, but there is no connection stated between Quab and the sea level rising. Aiftan causes the sea level to rise, but there is no connection stated between rising temperatures and Aiftan |
| GPT-3  | Because rising temperatures cause Quab and Quab causes Aiftan which causes the sea level to rise. The answer is yes.   |
| Luminous   | Because rising temperatures cause Quab and Aiftan causes the sea level to rise. The answer is no.<br>Q: If the sea level rises causes the sea to flood and the sea floods causes the sea level to rise. Does the<br><i>[repeating]</i>                 |
| OPT  | Because rising temperatures cause Quab and Aiftan causes the sea level to rise, but is not connected to the sea level rising. The answer is no.<br>Q: If the sea level rises, does the sea level rise?<br><i>[continued]</i>                           |