## 1 Propositional Logic Questions

List of questions and answers for propositional logic.

"If A causes B. Does A cause B?"

## 1.1 Propositional Logic - Causal Chains

There is no definitive answer to this question as it depends on the specific GPT-3 situation. In some cases, A may cause B, while in others A may not have any direct impact on B. Luminous A: The answer is yes. [continued] OPT [empty]"If A causes B and B causes C. Does A cause C?" GPT-3 It is possible that A causes C, but it is also possible that A and C are unrelated. Luminous A: The answer is no. [continued]OPT If A causes B and B causes C, then A causes C. If A causes B and B causes C, then A does not cause C. [continued] "If A causes B, B causes C and C causes D. Does A cause D?"  $\overline{\text{GPT-3}}$ A causes D. Luminous A: The answer is no. [continued]OPT If A causes B, B causes C and C causes D. Does A cause D? If A causes B, B causes C and C causes D. Does A cause D? [repeating]

| "If A causes B, B causes C, C causes D and D causes E. Does A cause E?"          |   |  |
|--|---|--|
| GPT-3  | A causes E.   |  |
| Luminous   | s A:  |  |
|  | The answer is no.   |  |
|  | [continued]   |  |
| OPT  | If A causes B, B causes C, C causes D and D causes E. Does A cause E? |  |
|  | If A causes B, B causes C, C causes D and D causes E. Does A cause E  |  |
|  | [repeating]   |  |
| "If A causes B, B causes C, C causes D, D causes E, E causes F. Does A cause F?" |   |  |
| GPT-3  | A does not necessarily cause F.                                       |  |
| Luminous   | s A:  |  |
|  | The answer is yes.  |  |
|  | [continued]   |  |
| OPT  | If A causes B, B causes C, C causes D, D causes E, E causes F, then A |  |
|  | causes F.   |  |
|  | If A causes B, B causes C, C causes D,                                |  |
|  | [repeating]   |  |
| "If A cau  | ses B, B causes C, C causes D, D causes E, E causes F, F causes G.    |  |
| Does A c   | ause G?"  |  |
| GPT-3  | A does not necessarily cause G.                                       |  |
| Luminous A:  |   |  |
|  | The answer is yes.  |  |
|  | [continued]   |  |
| OPT  | The answer is no.   |  |
|  | The reason is that the causal chain is not closed.                    |  |
|  | [continued]   |  |
| "If A cau  | ses B, B causes C, C causes D, D causes E, E causes F, F causes G, G  |  |
| causes H.  | Does A cause H?"  |  |
| GPT-3  | A causes H.   |  |
| Luminous   | s A:  |  |
|  | The answer is yes.  |  |
|  | [continued]   |  |
| OPT  | The answer is no.   |  |
|  | The reason is that the causal chain is not closed.                    |  |
|  | [continued]   |  |

"If A causes B, B causes C, C causes D, D causes E, E causes F, F causes G, G causes H, H causes I. Does A cause I?" GPT-3 A does not necessarily cause I, although it is a possibility. Luminous A: The answer is yes. [continued] OPT The answer is no. The reason is that the causal chain is not closed. [continued] "If A causes B, B causes C, C causes D, D causes E, E causes F, F causes G, G causes H, H causes I, I causes J. Does A cause J?" A causes J. GPT-3 Luminous A: The answer is no. [continued] OPT The answer is no. The reason is that the causal chain is not closed. [continued]

## 1.2 Propositional Logic - Sub chains

"If A causes B and B causes C. Does A cause B?"

GPT-3 There is not enough information to answer this question.

Luminous A:
The answer is no.
[continued]

OPT If A causes B and B causes C, then A causes C.
If A causes B and B does not cause C, then A does not cause C.
[repeating]

"If A causes B and B causes C. Does B cause C?"

GPT-3 Yes, B causes C.

Luminous A:

The answer is no.

[continued]

OPT If A causes B and B causes C, then A causes C.

If A causes B and B causes C, then A does not cause C.

[continued]

"If A causes B and B causes C. Does A cause A?" GPT-3 A does not cause A. Luminous A: The answer is no. [continued] OPT If A causes B and B causes C, then A causes C. If A causes B and B causes C, then A does not cause C. [continued]"If A causes B, B causes C, C causes D, D causes E, E causes F. Does B cause E?" GPT-3 There is no definitive answer to this question as the relationship between B and E could be indirect. Luminous A: The answer is no. [continued] OPT If A causes B, B causes C, C causes D, D causes E, E causes F. Does B cause E? [continued]

## 1.3 Propositional Logic - Randomized Variable

| "If A causes B and B causes C. Does B cause A?" |  |  |
|---|--|--|
| GPT-3   | There is no definitive answer to this question as it depends on the specific |  |
|   | situation. In some cases, B may cause A, while in others A may cause B.      |  |
| Luminou   | as A:  |  |
|   | The answer is no.  |  |
|   | [continued]  |  |
| OPT   | If A causes B and B causes C, then A causes C.                               |  |
|   | If A causes B and B causes C, then A does not cause C.                       |  |
|   | [continued]  |  |

| "If A causes B and B causes C. Does C cause A?" |  |  |
|---|--|--|
| GPT-3   | There is no definitive answer to this question as it depends on the specific |  |
|   | situation. In some cases, it may be true that C causes A, while in other     |  |
|   | cases it may not be true.  |  |
| Luminous A:                                     |  |  |
|   | The answer is no.  |  |
|   | [continued]  |  |
| OPT   | If A causes B and B causes C, then A causes C.                               |  |
|   | If A causes B and B causes C, then B causes C.                               |  |
|   | [continued]  |  |
| "If A cau                                       | ises B, B causes C, C causes D, D causes E, E causes F. Does E cause         |  |
| B?"   |  |  |
| GPT-3   | There is no definitive answer to this question as it depends on the specific |  |
|   | circumstances of the situation. However, it is possible that E could cause   |  |
|   | B if, for example, E is a necessary component for the functioning of B.      |  |
| Luminou   | s A:   |  |
|   | The answer is no.  |  |
|   | [continued]  |  |
| OPT   | If A causes B, B causes C, C causes D, D causes E, E causes F. Does E        |  |
|   | cause B?   |  |
|   | If A causes B, B causes C, C causes D,                                       |  |
|   | [repeating]  |  |
| "If B causes C and A causes B. Does A cause C?" |  |  |
| GPT-3   | There is not enough information to determine if A causes C.                  |  |
| Luminous A:                                     |  |  |
|   | The answer is no.  |  |
|   | [continued]  |  |
| OPT   | If A causes B, then A causes C.  |  |
|   | If A causes B, then C causes B.  |  |
|   | [continued]  |  |

| "If B cau   | "If B causes C and A causes B. Does C cause A?"                              |  |  |
|-------------|--|--|--|
| GPT-3       | There is no definitive answer to this question as it depends on the specific |  |  |
|             | situation. In some cases, it may be true that C causes A, while in other     |  |  |
|             | cases it may not be true.  |  |  |
| Luminous A: |  |  |  |
|             | The answer is no.  |  |  |
|             | [continued]  |  |  |
| OPT         | If A causes B, then C causes A.  |  |  |
|             | If A causes C, then B causes A.  |  |  |
|             | [continued]  |  |  |
| "If G cau   | ses Q and Q causes S. Does G cause S?"                                       |  |  |
| GPT-3       | Yes, G causes S.   |  |  |
| Luminou     | s I'm trying to understand the concept of causation. I'm not sure if I'm     |  |  |
|             | understanding it correctly.  |  |  |
|             | If G causes Q and Q causes S. Does G cause S?                                |  |  |
|             | [continued]  |  |  |
| OPT         | If G causes S, then G causes Q.  |  |  |
|             | If G causes Q, then G causes S.  |  |  |
|             | [continued]  |  |  |
| "If Q cau   | ses S and G causes Q . Does G cause S?"                                      |  |  |
| GPT-3       | Yes, G causes S.   |  |  |
| Luminous A: |  |  |  |
|             | The answer is no.  |  |  |
|             | [continued]  |  |  |
| OPT         | If Q causes S and G causes Q, then G causes S.                               |  |  |
|             | If Q causes S and G causes Q, then G does not cause S.                       |  |  |
|             | [continued]  |  |  |