1 Propositional Logic (Chain of Thought; Prefix Samples 6)

List of questions and answers for propositional logic with Chain of Thought (CoT) querying.

1.1 Propositional Logic (Chain of Thought; Prefix Samples 6) - Causal Chains

"If A causes B. Does A cause B?"	
GPT-4	Yes, if A causes B, then A does cause B.
GPT-3	The answer is yes.
Luminous	Because A causes B and B causes C, A causes C. The answer is yes.
	Q: If A causes B. Does B cause A?
	[continued]
OPT	Because A causes B, the answer is yes.
	Q: If A causes B, B causes C and C causes A. Does A cause C?
	[continued]

"If A causes B and B causes C. Does A cause C?"	
GPT-4	Because A causes B and B causes C, A causes C. The answer is yes.
GPT-3	Because A causes B and B causes C, A causes C. The answer is yes.
Luminous	Because A does not cause C directly and B causes C, the answer is no.
	Q: If A causes B and B causes C. Does A cause C?
	[continued]
OPT	Because A causes B and B causes C, A causes C. The answer is yes.
	Q: If A causes B and B causes C. Does A cause C?
	[continued]

"If A causes B, B causes C and C causes D. Does A cause D?"	
GPT-4	Because A causes B, B causes C, and C causes D, A does cause D. The answer is yes.
GPT-3	Because A causes B, B causes C and C causes D, A causes D. The answer is yes.
Luminous	Because A does not cause D directly and A causes B, B causes C and C causes D, A causes D. The answer is yes. Q: If A causes B, B causes C and C causes D. Does A cause D *[repeating]*
OPT	Because A does not appear in any of the clauses, the answer is no. Q: If A causes B, B causes C and C causes D. Does A cause D? *[continued]*

"If A causes B, B causes C, C causes D and D causes E. Does A cause E?"	
GPT-4	Because A causes B, B causes C, C causes D and D causes E, A causes E. The answer is yes.
GPT-3	Because A causes B, B causes C, C causes D and D causes E, A causes E. The answer is yes.
Luminous	Because A does not cause E directly and A causes B, B causes C, C causes D and D causes E, the answer is no. Q: If A causes B, B causes C, C causes D and D causes E. *[repeating]*
OPT	Because A does not appear in any of the clauses, the answer is no. Q: If A causes B, B causes C, C causes D and D causes E. Does A cause E? *[continued]*

"If A causes B, B causes C, C causes D, D causes E, E causes F. Does A cause F?"	
GPT-4	Because A causes B, B causes C, C causes D, D causes E, and E causes F, A does cause F. The answer is yes.
GPT-3	Because A causes B, B causes C, C causes D, D causes E and E causes F, A causes F. The answer is yes.
Luminous	Because A does not cause F directly and A causes B, B causes C, C causes D, D causes E, E causes F, the answer is no. Q: If A causes B, B causes C, C causes D, *[repeating]*
OPT	Because A does not appear in any of the clauses, the answer is no. Q: If A causes B, B causes C, C causes D, D causes E, E causes F. Does A cause F? *[continued]*

"If A causes B, B causes C, C causes D, D causes E, E causes F, F causes G. Does A cause G?"	
GPT-4	Because A causes B, B causes C, C causes D, D causes E, E causes F, and F causes G, A does cause G. The answer is yes.
GPT-3	Because A causes B, B causes C, C causes D, D causes E, E causes F and F causes G, the answer is yes.
Luminous	Because A does not cause G directly and A causes B, B causes C, C causes D, D causes E, E causes F, F causes G, the answer is no. Q: If A causes B, B causes C, *[repeating]*
OPT	Because A does not appear in any of the clauses, the answer is no. Q: If A causes B, B causes C, C causes D, D causes E, E causes F, F causes G. Does A cause G? *[continued]*

	"If A causes B, B causes C, C causes D, D causes E, E causes F, F causes G, G causes H. Does A cause H?"
GPT-4	Because A causes B, B causes C, C causes D, D causes E, E causes F, F causes G, and G causes H, A does cause H. The answer is yes.
GPT-3	Because A causes B, B causes C, C causes D, D causes E, E causes F, F causes G and G causes H, the answer is yes.
Luminous	Because A does not cause H directly and A causes B, B causes C, C causes D, D causes E, E causes F, F causes G, G causes H, the answer is no. Q: If A causes B, *[repeating]*
OPT	Because A does not appear in any of the clauses, the answer is no. Q: If A causes B, B causes C, C causes D, D causes E, E causes F, F causes G, G causes H. Does A cause H? *[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-4	Because A causes B, B causes C, C causes D, D causes E, E causes F, F causes G, G causes H, and H causes I, A does cause I. The answer is yes.
GPT-3	Because A causes B, B causes C, C causes D, D causes E, E causes F, F causes G, G causes H and H causes I, the answer is yes.
Luminous	Because A does not cause I directly and A causes B, B causes C, C causes D, D causes E, E causes F, F causes G, G causes H, H causes I, the answer is no. Q: If *[repeating]*
OPT	Because A does not appear in any of the clauses, the answer is no. Q: 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? *[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?"	
GPT-4	Yes, because A causes B and so on up to I causing J, A indirectly causes J.
GPT-3	Because A causes B, B causes C, C causes D, D causes E, E causes F, F causes G, G causes H, H causes I, and I causes J, the answer is yes.
Luminous	Because A does not cause J directly and 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, the answer is no.
OPT	Because A does not appear in any of the clauses, the answer is no. Q: 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? [continued]

1.2 Propositional Logic (Chain of Thought; Prefix Samples 6) - Sub chains

"If A causes B and B causes C. Does A cause B?"	
GPT-4	Yes, according to the given statement, A does cause B.
GPT-3	Because A causes B and B causes C, A causes C. The answer is yes.
Luminous	Because A causes B and B causes C, A causes C. The answer is yes. Q: If A causes B and B causes C. Does A cause C? [continued]
OPT	Because A causes B, B causes C and C causes A, the answer is yes. Q: If A causes B and B causes C. Does A cause C? [continued]

"If A causes B and B causes C. Does B cause C?"	
GPT-4	Yes, according to the information given, B does cause C.
GPT-3	Because B causes C, the answer is yes.
Luminous	Because A does not cause C directly and B causes C, the answer is no. Q: If A causes B and B causes C. Does A cause C? [continued]
OPT	Because A causes B and B causes C, B causes C. The answer is yes. Q: If A causes B and B causes C. Does A cause C? [continued]

5

"If A causes B and B causes C. Does A cause A?"	
GPT-4	No, A causing B and B causing C does not imply that A causes A.
GPT-3	Because A causes B and B causes C, A causes C. The answer is no.
Luminous	Because A does not cause A directly, the answer is no.
	Q: If A causes B and B causes C. Does A cause C?
	[continued]
OPT	Because A causes B and B causes C, A causes A. The answer is yes.
	Q: If A causes B and B causes C. Does A cause C?
	[continued]
"If A causes B, B causes C, C causes D, D causes E, E causes F. Does B cause E?"	
GPT-4	No, B does not directly cause E. B causes C, which then causes D, which then causes E. So, B indirectly influences E, but it does not directly cause E.
GPT-3	Because B causes C, C causes D, D causes E and E causes F, B causes E. The answer is yes.
Luminous	Because B does not cause E directly and B causes C which does not cause E, B does not cause E. The answer is no.
	Q: If A causes B, B causes C, C causes D, D causes E, E
	[repeating]
OPT	Because B does not appear in any of the clauses, the answer is no.
	Q: 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 (Chain of Thought; Prefix Samples 6) - Randomized Variable

"If A causes B and B causes C. Does B cause A?"	
GPT-4	No, B does not cause A. The causality is from A to B, not the other way around.
GPT-3	Because B does not cause A directly and B causes C which does not cause A, B does not cause A. The answer is no.
Luminous	Because A does not cause B directly and B causes C which does not cause A, B does not cause A. The answer is no. Q: If A causes B and B causes C. Does A cause C? *[continued]*
OPT	Because A does not appear in any of the clauses, the answer is no. Q: If A causes B and B causes C. Does A cause C? *[continued]*

"If A causes B and B causes C. Does C cause A?"	
GPT-4	No, C does not cause A. The causality chain goes from A to B to C, not the other way around.
GPT-3	Because C does not cause A directly and B causes C which does not cause A, C does not cause A. The answer is no.
Luminous	Because C does not cause A directly and B causes C, the answer is no. Q: If A causes B and B causes C. Does A cause C? *[continued]*
OPT	Because A does not appear in any of the clauses, the answer is no. Q: If A causes B and B causes C. Does C cause A? *[continued]*

"If A causes B, B causes C, C causes D, D causes E, E causes F. Does E cause B?"	
GPT-4	No, E does not cause B. In the given sequence, E is caused by D and E causes F. There is no direct or indirect causation from E to B.
GPT-3	Because E causes F, F does not cause B, and D causes E, the answer is no.
Luminous	Because E causes F, F causes C, C causes D, D causes B, the answer is yes. Q: If A causes B, B causes C, C causes D, D causes E, E causes F. Does E cause *[repeating]*
OPT	Because E does not appear in any of the clauses, the answer is no. Q: If A causes B, B causes C, C causes D, D causes E, E causes F. Does E cause A? *[continued]*

"If B causes C and A causes B. Does A cause C?"	
GPT-4	Because A causes B and B causes C, A causes C. The answer is yes.
GPT-3	Because A causes B and B causes C, A causes C. The answer is yes.
Luminous	Because A does not cause C directly and A causes B which does not cause C, A does not cause C. The answer is no. Q: If B causes C and A causes B. Does A cause C? *[continued]*
OPT	Because A does not appear in any of the clauses, the answer is no. Q: If A causes B and B causes C. Does A cause C? *[continued]*

"If B causes C and A causes B. Does C cause A?"	
GPT-4	No, C does not cause A. The causality chain goes from A to B to C, not the other way around.
GPT-3	Because C does not cause A directly and A causes B which causes C, C does not cause A. The answer is no.
Luminous	Because A does not cause C directly and A causes B which does not cause C, the answer is no. Q: If B causes C and A causes B. Does A cause C? *[continued]*
OPT	Because A does not appear in any of the clauses, the answer is no. Q: If A causes B and B causes C. Does C cause A? *[continued]*

"If G causes Q and Q causes S. Does G cause S?"	
GPT-4	Because G causes Q and Q causes S, G causes S. The answer is yes.
GPT-3	Because G causes Q and Q causes S, G causes S. The answer is yes.
Luminous	Because G does not cause S directly and G causes Q which does not cause S, G does not cause S. The answer is no. Q: If G causes Q and Q causes S. Does S cause G? *[continued]*
OPT	Because G does not appear in any of the clauses, the answer is no. Q: If G causes Q and Q causes S. Does G cause S? *[continued]*

"If Q causes S and G causes Q . Does G cause S?"	
GPT-4	Because G causes Q and Q causes S, G causes S. The answer is yes.
GPT-3	Because G causes Q and Q causes S, G causes S. The answer is yes.
Luminous	Because G does not cause S directly and G causes Q which does not cause S, G does not cause S. The answer is no. Q: If Q causes S and G causes Q . Does S cause G? *[continued]*
OPT	Because Q does not appear in any of the clauses, the answer is no. Q: If Q causes S and G causes Q. Does G cause S? *[continued]*