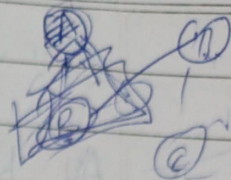


PAGE NO :

DATE :



Knowledge Base

- (1) Alice is mother of Bob
- (2) Bob is father of Charlie
- (3) A father is a parent
- (4) A mother is a parent
- (5) If someone is a parent, their children are siblings
- (6) Alice is married to David

Hypothesis

Charlie is sibling of Bob

Entailment Process

From the statement "father and mother is parent" and "mother is parent" we can say that Alice and Bob are parents.

But the statement "If someone is a parent their children are siblings" only states a parents' children are siblings ~~and since if~~ common parent exist

Since Bob and Charlie don't share sibling
Bob and Charlie ^{are} not sibling

Thus hypothesis is not entailed by knowledge base

Lab 7

1. All philosophers are humans
2. Every human who teaches at a university is a philosopher or a scientist
3. Some philosophers are not scientist
4. If someone teaches at university and is philosopher they write books
5. Socrates is a philosopher
6. Socrates teaches in a university
7. Does Socrates write books?
- 8.

1. ~~$\forall x (\text{Human}(x) \rightarrow \dots)$~~

1. $\forall x (\text{Philosopher}(x) \rightarrow \text{Human}(x))$
2. $\forall x (\text{TeachesUniversity}(x) \rightarrow \text{Philosopher}(x) \vee \text{Scientist}(x))$
3. $\exists x (\text{Philosopher}(x) \rightarrow \neg (\text{Scientist}(x)))$
4. $\forall x (\text{TeachesUniversity}(x) \wedge \text{Philosopher}(x)) \rightarrow \text{WritesBook}(x)$
5. $\text{Philosopher}(\text{Socrates})$
6. $\text{TeachesUniversity}(\text{Socrates})$
- 7.

From 5 and 6 we know that .

$\text{Philosopher}(\text{Socrates}) \wedge \text{TeachesUniversity}(\text{Socrates})$

From 4

$\text{Philosopher}(S) \wedge \text{TeachesUniversity}(S) \rightarrow \text{WritesBook}(S)$

$\Rightarrow \text{Socrates} \rightarrow x$

$y \rightarrow x$

$\Rightarrow \text{WritesBook}(\text{Socrates})$

Done