CS161 - Quiz 4

Started: Feb 24 at 6:41pm

Quiz Instructions

Question 1 1 pts

Given two arbitrary propositional sentences α and β , if α does not entail β , you can prove it using resolution. \bigcirc True \bigcirc False

 Question 2
 1 pts

 Which of the following are Horn clasuse? Choose ALL that apply.

 $A \wedge B \wedge D \Rightarrow C$
 $A \vee B \vee \neg C \vee D$
 $A \wedge B \wedge D \Rightarrow \neg C$
 $A \wedge B \wedge D \Rightarrow \neg C$
 $A \wedge \neg B \wedge \neg D \Rightarrow \neg C$
 $\neg A \vee \neg B \vee \neg C$

Question 3 1 pts

For this question, you will need to convert a propositional sentence to Conjunction Normal Form (CNF).

Please fill in the blanks with symbols like "A" or "~A".

How to represent a CNF:

- For each blank below, you fill in either a positive literal like "A" or a negative literal like "~A". Negation is represented by "~".
- It is possible that more blanks are provided than needed. If that's the case, fill in the blanks with "None".
- Important: Please follow the alphabetical order to sort clauses and literals within a clause.

Example:

Given the sentence $(\neg B \lor C) \land (\neg B \lor A) \land (C \land B \land F)$

your result should look like this:

(A ∨~B ∨ None ∨ None)

 \land (\sim B \lor C \lor None \lor None)

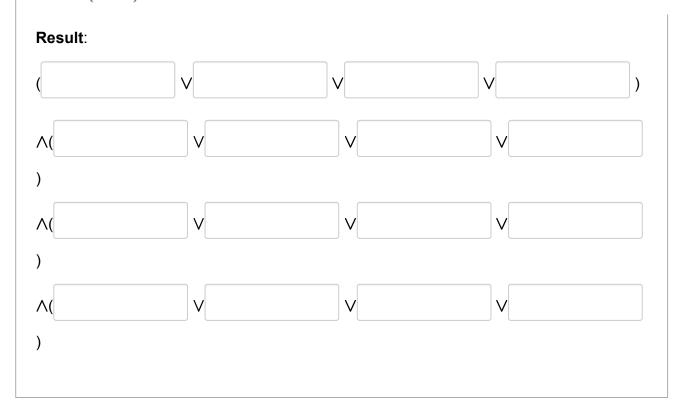
 \land (B \lor C \lor F \lor None)

∧ (None ∨ None ∨ None ∨ None)

- Note that here BC is considered ahead of BCF alphabetically, so the clause (~B ∨ C) will be before (B ∨ C ∨ F).
- If we have clauses (A ∨ B) and (A ∨ C), (A ∨ B) will be before (A ∨ C) because AB is alphabetically ahead of AC.

Convert the following sentence to CNF:

$$A \Leftrightarrow (B \Rightarrow C)$$



Question 4 1 pts

Not saved

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