CS161 - Quiz 4 Results for ZHANG, CHARLES XIAN

Score for this quiz: **2.1** out of 4
Submitted Feb 24 at 7:01pm
This attempt took 20 minutes.

Question 1

0 / 1 pts

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

You Answered
- (●) True

Correct Answer
- ( ) False

Question 2

0.67 / 1 pts

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

Correct Answer
- [ ] $A \wedge B \wedge D \Longrightarrow C$
- [ ] $A \vee B \vee \neg C \vee D$

Correct!
- [x] $A \wedge B \wedge D \Longrightarrow \neg C$
- [ ] $A \wedge \neg B \wedge \neg D \Longrightarrow \neg C$

Correct!
- [x] $\neg A \vee \neg B \vee \neg C$

Question 3

0.44 / 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 $(\neg B \vee C) \wedge (\neg B \vee A) \wedge (C \wedge B \wedge F)$

your result should look like this:

(A ∨ ~B ∨ None ∨ None)

∧ (~B ∨ C ∨ None ∨ None)

∧ (B ∨ C ∨ F ∨ 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:

$A \Leftrightarrow (B \Rightarrow C)$

Result:

(~A ∨ ~B ∨ None ∨ None)

∧(~A ∨ C ∨ None ∨ None)

∧(A ∨ B ∨ None ∨ None)

∧(A ∨ ~C ∨ None ∨ None)

Answer 1:

You Answered: ~A

Correct Answer: A

Answer 2:

You Answered: ~B

Correct Answer: B

Answer 3:

Correct!: None

Answer 4:

Correct! None

Answer 5:

You Answered ~A

Correct Answer A

Answer 6:

You Answered C

Correct Answer ~C

Answer 7:

Correct! None

Answer 8:

Correct! None

Answer 9:

You Answered A

Correct Answer ~A

Answer 10:

You Answered B

Correct Answer ~B

Answer 11:

You Answered None

Correct Answer C

Answer 12:

Correct! None

Answer 13:

You Answered A

Correct Answer None

Answer 14:

You Answered ~C

Correct Answer None

Answer 15:

Correct! None

Answer 16:

Correct! None

Question 4

1 / 1 pts

$\alpha \models \beta$ if and only if $\alpha \models \beta$ is satisfiable.

- True
- Correct! False

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