338.001, VL Logic, Martina Seidl / Wolfgang Schreiner / Wolfgang Windsteiger, 2022W

Quiz navigation

1 2 3

Show one page at a time

Finish review

Started on	Monday, 16 January 2023, 7:16 PM
State	Finished
Completed on	Monday, 16 January 2023, 7:21 PM
Time taken	4 mins 54 secs
Grade	**4.00** out of 5.00 (**80**%)

Question 1

Incorrect

Mark 0.00 out of 1.00

Flag question

Given the following formula:

¬(¬(¬a ∨ b ∨ c) ∨ (c ∧ ¬d ∧ ¬e ∧ a)) ∧ (x ∨ (y ∧ z))

How many clauses do we obtain when we transform the formula into a semantically equivalent CNF (approach 1 of the lecture)?

Answer: 5 ✖

The correct answer is: 4

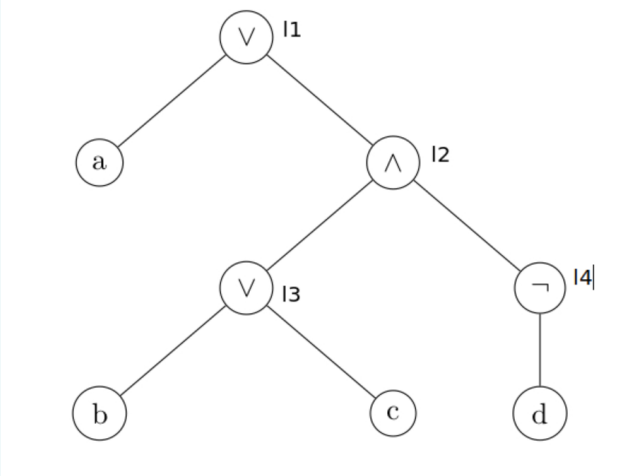
Question 2

Correct

Mark 2.00 out of 2.00

Flag question

Given the following syntax tree of a propositional formula. This tree is annotated with labels to be used in the transformation to CNF.



Which clauses occur in the CNF when using approach 2 as presented in the lecture to translate the formula to CNF?

1. (¬l2 ∨ b ∨ c)
2. (¬l3 ∨ b ∨ c) ✔
3. (l4 ∨ d) ✔
4. (¬a ∨ l1 ∨ l2)
5. (¬l3)
6. (¬l4 ∨ d)
7. (l1) ✔

Die Antwort ist richtig.

The correct answers are:
(l1),

(¬l3 ∨ b ∨ c),

(l4 ∨ d)

Question 3

Correct

Given formula (¬a ∨ b ∨ c) ∧ (c ∨ ¬d ∨ ¬e ∨ a) ∧ (¬e ∨ ¬f ∨ ¬d ∨ ¬a) ∧ ¬a ∧ ¬b. Which of the following formulas can be obtained by eliminating ONE unit clause (i.e., by applying BCP on one literal)?

Mark 2.00 out of 2.00

Flag question

Select one or more:

1. (¬a ∨ c) ∧ (c ∨ ¬d ∨ ¬e ∨ a) ∧ (¬e ∨ ¬f ∨ ¬d ∨ ¬a) ∧ ¬a ✔
2. (c ∨ ¬d ∨ ¬e ∨ a) ∧ (¬e ∨ ¬f ∨ ¬d ∨ ¬a) ∧ ¬a
3. (c ∨ ¬d ∨ ¬e) ∧ ¬b ✔
4. (b ∨ c) ∧ (c ∨ ¬d ∨ ¬e) ∧ (¬e ∨ ¬f ∨ ¬d) ∧ ¬b
5. (¬a ∨ c) ∧ (c ∨ ¬d ∨ ¬e ∨ a) ∧ (¬e ∨ ¬f ∨ ¬d ∨ ¬a) ∧ ¬a ∧ ¬b

Die Antwort ist richtig.

The correct answers are: (¬a ∨ c) ∧ (c ∨ ¬d ∨ ¬e ∨ a) ∧ (¬e ∨ ¬f ∨ ¬d ∨ ¬a) ∧ ¬a, (c ∨ ¬d ∨ ¬e) ∧ ¬b

Finish review

◄ SMT1B

Jump to...

SMT2B (correction: LIA -> IA) ►