

Course > Week 10: Logical Agents > Week 10 Quiz: Logical Agents > Week 10 Quiz

## Week 10 Quiz

☐ Bookmark this page

Q1

10.0/10.0 points (graded)

$$((p \to q) \land (q \to r)) \to (p \to r)$$

Consider the above proposition in propositional logic. Is this proposition a:

- ✓ tautology? ✓
- fallacy?
- contingency?



Submit

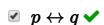
You have used 1 of 1 attempt

• Answers are displayed within the problem

Q2

10.0/10.0 points (graded)

Among the following propositions, which ones are logically equivalent?



$lacksquare (p \wedge  eg q) \wedge  eg ( eg p  o  eg q)$		
$ ot\hspace{-1em} \blacksquare \neg (p \wedge \neg q) \wedge (\neg p \rightarrow \neg q) \checkmark $		
$lacksquare  eg(p \land  eg q) \lor ( eg p  ightarrow  eg q)$		
<b>✓</b>		
Submit You have used 1 of 1 attempt		
Answers are displayed within the problem		
Q3   10.0/10.0 points (graded)   Let $m{p}$ be a proposition in propositional logic. $m{p}$ : John is not tall and John is thin. What is the $\neg m{p}$ (negation of $m{p}$ )?		
John is tall or John is thin		
John is tall and John is not thin		
John is not tall and John is not thin		
✓ John is tall or John is not thin ✓		
Submit You have used 1 of 1 attempt		
Answers are displayed within the problem		
Q4 $10.0/10.0 \ {\sf points} \ ({\sf graded})$ The CNF of $(p  o q)  o r$ is:		

$lacksquare ( eg p ee r) \wedge ( eg q ee  eg r)$			
$ ot \hspace{-1em} \blacksquare \hspace{-1em} (p \lor r) \land (\neg q \lor r) \checkmark $			
$lacksquare (p \wedge r) ee ( eg q \wedge r)$			
<b>✓</b>			
Submit You have used 1 of 1 attempt			
Answers are displayed within the problem			
Q5			
10.0/10.0 points (graded) Given the following $oldsymbol{KB}$ :			
$\mathit{KB} = \{P \lor Q \lor R, \neg P \lor R, \neg Q\}$			
using model checking, does $KB \models R$ ?			
● Yes ✔			
O No			
Submit You have used 1 of 1 attempt			
Q6			
10.0/10.0 points (graded)			

$KB = \{P \setminus$	$ee \lnot Q, \lnot Q \lor R, \lnot P \lor \lnot R \}$	
using model	checking, does $KB \models Q$ ?	
O Yes		
● No ✔		
Submit	You have used 1 of 1 attempt	
Q7		
10.0/10.0 points (graded) Which inference rule is used to make this inference?		
If it snow	rs today, the university will close	
The univ	ersity is not closed today	
	It did not snow today	
O Modus Ponens		
Modus Tollens   ✓		
Submit	You have used 1 of 1 attempt	
Q8		
10.0/10.0 points (graded) Which inference rule is used to make this inference?		
If it is rainy, then the pool will be closed It is rainy		
-	The pool is closed	

Given the following  $\it KB$ :

■ Modus Ponens   ✓		
Modus Tollens		
Submit You have used 1 of 1 attempt		
Q9		
10.0/10.0 points (graded) Check all that apply.		
☑ First order logic is more powerful than propositional logical because it can model objects and the relations between them  ✓		
■ Inference in propositional logic with horn clauses is sound but not complete		
☑ Backward chaining works backwards from the query ✓		
<ul> <li>Logical agents are black box models because the models they build about the world are not intelligible</li> </ul>		
Submit You have used 1 of 1 attempt		
Answers are displayed within the problem		
Q10		
10.0/10.0 points (graded) Check all that apply.		
☑ Inference can be cast as a search problem ✔		

- The resolution algorithm uses a proof by contradiction, that is it shows that  $KB \land \neg \alpha$  is satisfiable
- lacksquare A horn clause is a logic proposition of the form:  $p_1 \wedge \ldots \wedge p_n o q imes q$
- Every sentence in propositional logic can be written in Conjunctive Normal Form (CNF) ✓



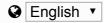
Submit

You have used 1 of 1 attempt

**1** Answers are displayed within the problem

© All Rights Reserved





© 2012–2017 edX Inc. All rights reserved except where noted. EdX, Open edX and the edX and Open edX logos are registered trademarks or trademarks of edX Inc. | 粤ICP备17044299号-2

















