

Unit 9 - Week 6: Knowledge Representation and Reasoning - III

Course outline

How to access the portal

Week 0: Prerequisites

Week 1: AI and AI Problem Solving

Week 2: Problem Solving by Search - I

Week 3: Problem Solving by Search - II

Week 4: Knowledge Representation and Reasoning - I

Week 5: Knowledge Representation and Reasoning - II

Live Session-1

Week 6: Knowledge Representation and Reasoning - III

 Lec 1: Inference in FOL - II

 Lec 2: Answer Extraction

 Lec 3: Procedural Control of Reasoning

 Quiz : Assignment 6

 Feedback Form

Week 7: Reasoning under Uncertainty

Week 8: Planning

Week 9: Planning and Decision Making

Live Session-2

Week 10: Machine Learning -I

Week 11: Machine Learning - II

Week 12: Machine Learning - III

Assignment 6

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2019-09-11, 23:59 IST.

1) First order logic (FOL) is called 'first order' because 1 point

- A. FOL does not allow quantification over predicate symbols or function symbols.
- B. Predicates are first-order relations.
- C. FOL comes first in the logics involving quantifiers.
- D. Propositional logic is zero-order

No, the answer is incorrect.

Score: 0

Accepted Answers:

A. FOL does not allow quantification over predicate symbols or function symbols.

2) The process of removing detail from a given state representation is called _____ 1 point

- A. Extraction
- B. Abstraction
- C. Information Retrieval
- D. Mining

No, the answer is incorrect.

Score: 0

Accepted Answers:

B. Abstraction

3) First-order resolution requires the clause to be in Conjunctive Normal Form, which are 1 point

- A. Disjunction of literals
- B. Disjunction of variables
- C. Conjunction of literals
- D. Conjunction of variable

No, the answer is incorrect.

Score: 0

Accepted Answers:

A. Disjunction of literals

4) Rule of inference, called _____ when added to resolution principle, guarantees refutation completeness, even when involving equality. 1 point

- A. Demodulation
- B. Paramodulation
- C. Modulation
- D. Equimodulation

No, the answer is incorrect.

Score: 0

Accepted Answers:

B. Paramodulation

5) A resolution trace captures the information of a _____, in a linear form. 1 point

- A. Domain
- B. Conceptualization
- C. Resolution Graph
- D. Abstraction

No, the answer is incorrect.

Score: 0

Accepted Answers:

C. Resolution Graph

6) Answer extraction involves converting a refutation tree to a proof tree with statement at the root that can be used as an answer. Which of the following are true w.r.t the above process of answer extraction: 1 point

- I. Convert every clause arising from the negation of the goal well-formed formula into a tautology.
- II. The statement at the root of the Modified Proof Tree logically follows from the axioms and the tautologies.

- A. Either I or II
- B. Both I and II
- C. I only
- D. II only

No, the answer is incorrect.

Score: 0

Accepted Answers:

B. Both I and II

7) A control strategy for a refutation system is said to be _____ if its use results in a procedure that will find a contradiction whenever one exists. 1 point

- A. Optimal
- B. Complete
- C. Efficient
- D. Sound

No, the answer is incorrect.

Score: 0

Accepted Answers:

B. Complete

8) Under which of the following conditions, a clause $\{L_i\}$ subsumes a clause $\{M_i\}$, if there exists a substitution 's'? 1 point

- Condition 1: $\{L_i\}$ s is a subset of $\{M_i\}$
- Condition 2: $\{M_i\}$ s is a subset of $\{L_i\}$

- A. No clause ever subsumes another clause.
- B. Condition 1 only
- C. Both Condition 1 and Condition 2
- D. Condition 2 only

No, the answer is incorrect.

Score: 0

Accepted Answers:

B. Condition 1 only

9) In this form of refutation, each resolvent has a parent that is either in the base set or that is an ancestor of the other parent. 1 point

- A. Breadth-first Strategy
- B. Ancestry-filtered Form Strategy
- C. Linear-input Form Strategy
- D. Set-of-support Strategy

No, the answer is incorrect.

Score: 0

Accepted Answers:

B. Ancestry-filtered Form Strategy

10) In answer extraction, we convert the question to a goal well-formed formula containing an existential quantifier. The _____ represents an answer to the question. 1 point

- A. local variable
- B. existentially quantified variable
- C. global variable
- D. well-formed formula

No, the answer is incorrect.

Score: 0

Accepted Answers:

B. existentially quantified variable