

Unit 7 - Week 5: Knowledge Representation and Reasoning - II

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

Lec 1: First Order Logic -II

Lec 2: Inference in First Order Logic -I

Quiz : Assignment 5

Feedback Form

Live Session-1

Week 6: Knowledge Representation and Reasoning - III

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 5

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

Due on 2019-09-04, 23:59 IST.

1) In First Order Logic, an interpretation I is a mapping between elements of the language and elements of a _____

1 point

- A. representation.
- B. well-formed expression.
- C. conceptualization.
- D. meaningful expression.

No, the answer is incorrect.
Score: 0

Accepted Answers:
C. *conceptualization.*

2) Consider which of the following statements are correct w.r.t. satisfiability of logical sentences based on the logical operators involved.

1 point

- I. Universally quantified sentence is satisfied if and only if the enclosed statement is satisfied for all assignments of the quantified variable.
- II. Existentially quantified sentence is satisfied if and only if the enclosed statement is satisfied for few assignments of the quantified variable.

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

No, the answer is incorrect.
Score: 0

Accepted Answers:
C. *I only*

3) Facts and rules that attempt to capture all of the (important) facts and concepts about a domain are referred to as _____

1 point

- A. Predicate logic.
- B. Axioms.
- C. Theorems.
- D. Truth values.

No, the answer is incorrect.
Score: 0

Accepted Answers:
B. *Axioms.*

4) Also known as skolemization; the _____ is a convenient way to reason about the unknown object, rather than the existential quantifier.

1 point

- A. Skolem constant
- B. Skolem variable
- C. Universal variable
- D. Existential variable

No, the answer is incorrect.
Score: 0

Accepted Answers:
A. *Skolem constant*

5) A clause defined as a well-formed formula consisting of a _____ of literals.

1 point

- A. disjunction
- B. set
- C. conjunction
- D. array

No, the answer is incorrect.
Score: 0

Accepted Answers:
A. *disjunction*

6) _____ helps immensely in search as it dramatically reduces the number of resolvents that can be inferred from two input clauses.

1 point

- A. Conjunctive Normal Form
- B. Most General Unifiers
- C. Resolution
- D. Breadth-first Strategy

No, the answer is incorrect.
Score: 0

Accepted Answers:
B. *Most General Unifiers*

7) Given $loyal(x, y)$: x is loyal to y; The logic statement $\forall "x" \exists y loyal(x, y)$ refers to

1 point

- A. Everyone is loyal to everyone.
- B. Everyone is loyal to someone.
- C. Someone is loyal to everyone.
- D. Someone is loyal to someone.

No, the answer is incorrect.
Score: 0

Accepted Answers:
B. *Everyone is loyal to someone.*

8) An interpretation of a set of FOL sentences, such that every sentence is true, is a _____.

1 point

- A. Model
- B. Tautology
- C. Formalization
- D. Proof

No, the answer is incorrect.
Score: 0

Accepted Answers:
A. *Model*

9) In First order logic, if a set of sentence is _____ then resolution will always be able to derive a contradiction.

1 point

- A. Unsatisfiable
- B. Conjunction of literals
- C. Disjunction of literals
- D. Satisfiable

No, the answer is incorrect.
Score: 0

Accepted Answers:
A. *Unsatisfiable*

10) Given $loves(x, y)$: x loves y; The logic statement $\exists y \forall "x" loves(x, y)$ refers to

1 point

- A. Everyone loves everyone.
- B. Everyone loves someone.
- C. Someone loves everyone.
- D. Someone loves someone

No, the answer is incorrect.
Score: 0

Accepted Answers:
C. *Someone loves everyone.*