

## Unit 6 - Week 4: Knowledge Representation and Reasoning - I

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
<input checked="" type="radio"/> Lec 1: Introduction to Knowledge Representation <input type="radio"/> Lec 2: Propositional Logic <input type="radio"/> Lec 3: First Order Logic -I <input type="radio"/> Quiz : Assignment 4 <input type="radio"/> Feedback Form
Week 5: Knowledge Representation and Reasoning - II
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 4

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

**Due on 2019-08-28, 23:59 IST.**

- 1) Pragmatics of a knowledge representation language specify 1 point
- A. which group of symbols, arranged in what way, are to be considered properly formed.  
 B. what the well-formed expressions are supposed to mean.  
 C. when are the well-formed expressions useful.  
 D. how the meaningful expressions are to be used.
- No, the answer is incorrect.**  
Score: 0  
**Accepted Answers:**  
D. how the meaningful expressions are to be used.
- 2) Consider which of the following statements are correct w.r.t. entailment in first-order logic being semi-decidable. 1 point
- I. Algorithms exist that say yes to every entailed sentence  
II. No algorithm exists that says no to every non-entailed sentence.
- 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:**  
A. Both I and II
- 3) First order logic (FOL) does not allow quantification over predicate symbols or function symbols; therefore, FOL is called \_\_\_\_\_. 1 point
- A. Predicate logic.  
 B. First-order.  
 C. Sentential logic.  
 D. Predicate Calculus.
- No, the answer is incorrect.**  
Score: 0  
**Accepted Answers:**  
B. First-order.
- 4) 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
- 5) If a sentence has no free variables, it is called a \_\_\_\_\_ sentence; If it has neither free nor bound variables, it is called a \_\_\_\_\_ sentence. 1 point
- A. Closed; ground  
 B. Ground; closed  
 C. Formula; closed  
 D. Closed; formula
- No, the answer is incorrect.**  
Score: 0  
**Accepted Answers:**  
A. Closed; ground
- 6) The \_\_\_\_\_ for a predicate variable is the set of values that may be assigned to the variable. 1 point
- A. universe of discourse  
 B. interpretation  
 C. truth value  
 D. evaluation
- No, the answer is incorrect.**  
Score: 0  
**Accepted Answers:**  
A. universe of discourse
- 7) For propositional logic, which of the following statements are true. 1 point
- I. Hard to identify "individuals".  
II. Can't directly talk about properties of individuals or relations between individuals.  
III. Generalizations, patterns, regularities can't easily be represented.
- A. Only I  
 B. Only II  
 C. I and II  
 D. I, II and III
- No, the answer is incorrect.**  
Score: 0  
**Accepted Answers:**  
D. I, II and III
- 8) A knowledge representation is fundamentally a \_\_\_\_\_; a substitute for the thing itself used to enable an entity to determine consequences by reasoning about the world. 1 point
- A. reasoning schema  
 B. surrogate  
 C. constraint  
 D. language
- No, the answer is incorrect.**  
Score: 0  
**Accepted Answers:**  
B. surrogate
- 9) The \_\_\_\_\_ states that: Knowledge may be represented as symbol structures; Intelligent behaviour can be achieved through manipulation of symbol structures. 1 point
- A. Symbol System Hypothesis  
 B. Physical System Hypothesis  
 C. Physical Symbol Hypothesis  
 D. Representation Hypothesis
- No, the answer is incorrect.**  
Score: 0  
**Accepted Answers:**  
A. Symbol System Hypothesis
- 10) In FOL, a \_\_\_\_\_ is a property that a variable or a finite collection of variables can have. 1 point
- A. function  
 B. relation  
 C. predicate  
 D. constant
- No, the answer is incorrect.**  
Score: 0  
**Accepted Answers:**  
C. predicate