

Unit 5- Reasoning

May 2022

1. Explain Forward and Backward chaining. What factors justify whether reasoning is to be done in forward or backward chaining. [9]
2. What are the reasoning patterns in propositional logic? Explain them in detail. [9]
3. Explain a unification algorithm with an example. [8]
Answer: <https://youtu.be/AViW96vOyNc>
4. Explain knowledge representation structures and compare them. [7]
5. What do you mean by Ontology of situation calculus? [3]

May 2023

1. Explain Forward chaining algorithm with the help of example. 9
2. Explain Forward Chaining and Backward Chaining. With its Properties, with one. example. 9
3. Explain Unification Algorithm in FOL. Solve stepwise with proper comments if $p(x, g(x))$ is equal to or not equal to $f(\text{prime}, f(\text{prime}))$ [8]
4. Explain FOL inference for following Quantifiers. [8]
 - i) Universal Generalization.
 - ii) Universal Instantiation.
 - iii) Existential Instantiation.
 - iv) Existential introduction
5. What is Ontological Engineering ,in details with its categories object and Model.

Dec 2023

1. Explain Forward chaining algorithm with the help of an example. 9
2. Write and explain the steps of the knowledge engineering process. 9

Answer: <https://youtu.be/vhuLDY8uCeg>

3. Explain Backward chaining algorithm with the help of example 9

4. b) Write a short note on : [9]

i) Resolution and

ii) Unification

Answer: <https://youtu.be/AViW96vOyNc>

May 2024

1. Explain Forward Chaining and Backward Chaining. With its properties, advantages and disadvantages. [9]

2. Explain: [8]

i) Unification in FOL <https://youtu.be/AViW96vOyNc>

ii) Reasoning with Default information

3. Explain FOL inference for following Quantifiers. [8]

i) Universal Generalization.

ii) Universal Instantiation.

iii) Existential Instantiation.

iv) Existential introduction

4. What is Ontological Engineering ,in detail with its categories object and Model.