

Example

Consider the following sentences:

- John likes all kinds of food.
- Apples are food.
- Chicken is food.
- Anything anyone eats and isn't killed by is food.
- Bill eats peanuts and is still alive.
- Sue eats everything Bill eats.

a. Translate these sentences into formulas in predicate logic.

b. Prove that “John likes peanuts” using backward chaining

Convert the formulas of part a into clause form.

c. Prove that “John likes peanuts” using resolution.

d. Use resolution to answer the question, "What food does Sue eat?"

Exercise

1. Translate the following sentences into FOPL:

- a) All students who take AI like to play games.
- b) No students who take AI like to play games.
- c) On Saturday, all students either go to a party or work, but not both.
- d) All students go to a party on Saturday, except those taking AI.
- e) Exactly two students go to a party.

Exercise

Consider the following assertions:

- **In every program there is a bug**
- **A program that contains a bug does not work**
- **P is a program**

a) Write First Order Logic knowledge base corresponding to these assertions.

b) Prove that “P does not work” using resolution algorithm.

Exercises from Text Book