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Program No. – 08

Program Title – Create a knowledgebase using prepositional logic and prove the given query using resolution.

**Explanation:**

Resolution is used, if there are various statements are given, and we need to prove a conclusion of those statements. is a single inference rule which can efficiently operate on the **conjunctive normal form or clausal form**.

**Clause**: Disjunction of literals (an atomic sentence) is called a **clause**. It is also known as a unit clause.

**Conjunctive Normal Form**: A sentence represented as a conjunction of clauses is said to be **conjunctive normal form** or **CNF**.

**Resolution algorithm:**

· Suppose that KB^-|S is in normal form, where KB is knowledge based and S is a sentence.

· If KB entails S, the there should be a sequence of inferences through resolution that will lead to at least one clause that cannot be satisfied by any model.

· Implementation: Keep applying resolution to all the pairs of clauses in KB^-|S until:

1. We can’t find anymore clauses to resolve à KB does not entail S.

2. We found an empty clause (which cannot be satisfied by ant model) à KB does entails S.

