ASSIGNMENT 0

: Knowledge Based Systems :

ISHMAL AHMED
21-ARID-426
BSCS - 5C

: Steps in Resolution :

1. Convert facts into FOL (First order logic).
2. Convert FOL into CNF.
3. Negate the statement to be proved, and add the result to the knowledge Base.
4. Draw Resolution graph.
5. If empty clause (NIL) is produced; stop and report that original theorem is true.

- Example 01:

1. If it is sunny and warm day you will enjoy.
2. If it is raining you will get wet.
3. It is warm day.
4. It is raining.
5. It is Sunny

- Goal: You will enjoy
- Prove: enjoy.

Step 1:

: Conversion to FOL :

- If it is sunny and warm day will enjoy.

Sunny ^ warm → enjoy

- If it is raining you will get wet.
  raining → wet
- It is warm day.
  warm
- It is raining.
  raining
- It is sunny.
  sunny

Step 02:

, Conversion to CNF:

-1 Sunny ∧ warm → enjoy.
Eliminate implication.
¬ (sunny ∧ warm) V enjoy.

Moving negation inside.
¬ Sunny V ¬ Warm V enjoy

-2 Raining → wet
- ¬ raining V wet.

- warm
- raining
- sunny

Step 3 & 4 :

Resolution Graph

- Negate the statement to be proved.
  ¬enjoy
- Now take the statement one by one & create graph.