Backward Chaining: Steps

Input: Goal, set of rules, set of facts.

1. Check whether the goal is met (known) by the given facts. If yes, return TRUE.
2. For each rule
   a) Check whether goal matches a consequent.
   b) Recursion: If yes, set all sub-clauses in the antecedent as sub-goals and start recursion - Repeat from 1 for each sub-goal.
      i. Return TRUE when the combination of recursive results leads to positive evaluation of (sub-)goal.
3. Return FALSE - no explanation has been found, the goal has not been met

Backward Chaining Example in Propositional Logic

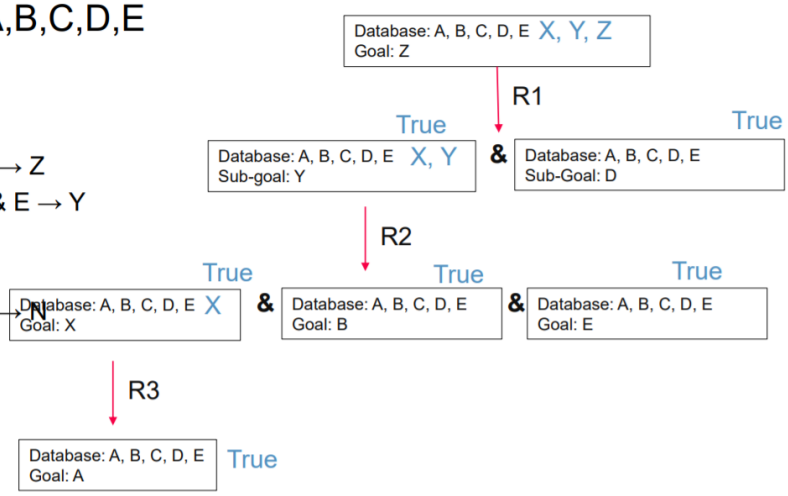
Facts: A,B,C,D,E

Rules:

R1: Y & D → Z
R2: X & B & E → Y
R3: A → X
R4: C → L
R5: L & M → N

Goal:

Z



[[Rules-Based System]]