**Aim:**

To implement the **Backward Chaining Algorithm** in Python.

**CODE:**

**def backward\_chaining(goal, facts, rules, indent=0):**

**print(" " \* indent + f"Trying to prove: {goal}")**

**if goal in facts:**

**print(" " \* indent + f"{goal} is a known fact.")**

**return True**

**for rule in rules:**

**conditions, conclusion = rule**

**if conclusion == goal:**

**print(" " \* indent + f"Found rule: IF {conditions} THEN {conclusion}")**

**if all(backward\_chaining(cond, facts, rules, indent + 1) for cond in conditions):**

**print(" " \* indent + f"{goal} can be inferred.")**

**return True**

**print(" " \* indent + f"{goal} cannot be proven.")**

**return False**

**# Example usage:**

**facts = {"A", "B"}**

**rules = [**

**(["A", "B"], "C"),**

**(["C"], "D"),**

**(["D", "E"], "F"),**

**(["B"], "E")**

**]**

**goal = "F"**

**result = backward\_chaining(goal, facts, rules)**

**print(f"\nGoal {goal} is {'provable' if result else 'not provable'}")**

**RESULT:**

**The Backward chaining program was successfully implemented.**