

## 7.IMPLEMENTATION OF BACKWARD CHAINING

**Name: J Sai Rajaram**

**Roll No:241801238**

**Class: AI&DS "FD"**

```
knowledge_base = {
    "flu": [["cough", "fever"]],
    "fever": [["sore_throat"]],
}

facts = {"sore_throat", "cough"}

def backward_chaining(goal):
    if goal in facts:
        return True
    if goal in knowledge_base:
        for conditions in knowledge_base[goal]:
            if all(backward_chaining(cond) for cond in conditions):
                return True
    return False

# Query: Does the patient have flu?
query = "flu"

if backward_chaining(query):
    print(f"The patient is diagnosed with {query}.")
else:
    print(f"The patient does NOT have {query}.")
```

```
The patient is diagnosed with flu.
Sai Rajaram.J(241801238)
=== Code Execution Successful ===
```