NAME: SNEHAN.S

REG NO: 241801272

EXP NAME: IMPLEMENTATION OF BACKWARD CHAINING

EXP NO: 7

PROGRAM:

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

OUTPUT:

```
The patient is diagnosed with flu.
```