

```
[1]: # Knowledge Base (Rules in IF-THEN format)
knowledge_base = {
    "flu": [["cough", "fever"]],
    "fever": [["sore_throat"]],
}

# Known facts
facts = {"sore_throat", "cough"}

# Backward chaining function
def backward_chaining(goal):
    if goal in facts: # If the goal is a known fact, return True
        return True

    if goal in knowledge_base: # If the goal has rules in KB
        for conditions in knowledge_base[goal]: # Check each rule
            if all(backward_chaining(cond) for cond in conditions): # Recursively verify
                return True
    return False # If no rule or fact supports the goal, return False

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

if backward_chaining(query):
    print(f"The patient is diagnosed with {query}.")
else:
```

backward chaining Last Checkpoint: 1 minute ago

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PY

Trusted

Code

JupyterLab Python (Pyodide)

```
def backward_chaining(goal):  
    if goal in facts: # If the goal is a known fact, return True  
        return True  
  
    if goal in knowledge_base: # If the goal has rules in KB  
        for conditions in knowledge_base[goal]: # Check each rule  
            if all(backward_chaining(cond) for cond in conditions): # Recursively verify  
                return True  
        return False # If no rule or fact supports the goal, 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.