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## IMPLEMENTATION OF FORWARD CHAINING

A screenshot of a Python IDE window titled '\*python.py - C:/Users/admin/Downloads/python.py (3.10.8)\*'. The window contains a Python script implementing a backward chaining algorithm. The script defines a 'knowledge\_base' dictionary with rules for 'flu' and 'fever'. It also defines a 'facts' dictionary with 'sore\_throat' and 'cough'. A 'backward\_chaining' function is defined, which checks if a goal is in the facts or knowledge base, and recursively checks conditions. The script sets a 'query' to 'flu' and calls the 'backward\_chaining' function, printing the result.

```
*python.py - C:/Users/admin/Downloads/python.py (3.10.8)*
File Edit Format Run Options Window Help

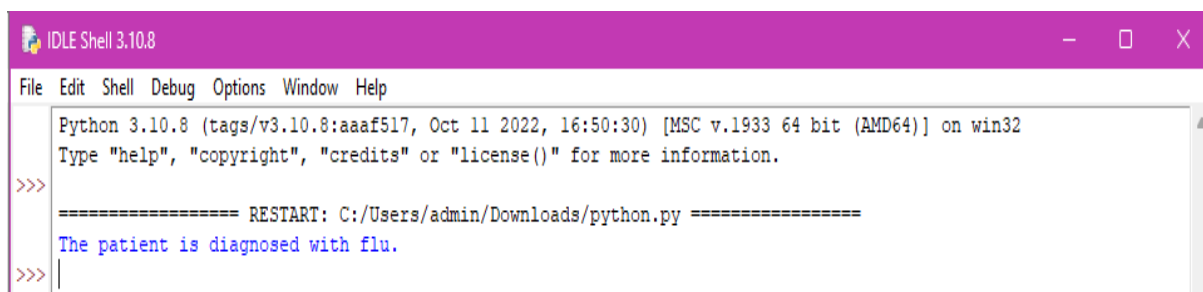
knowledge_base = {
    "flu": [{"cough", "fever"}],
    "fever": [{"sore_throat"}],
}

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}.")
```

A screenshot of the Python IDLE Shell window titled 'IDLE Shell 3.10.8'. The shell shows the output of the script execution. It displays the Python version and system information, followed by a restart message and the output of the 'backward\_chaining' function, which is 'The patient is diagnosed with flu.'.

```
IDLE Shell 3.10.8
File Edit Shell Debug Options Window Help

Python 3.10.8 (tags/v3.10.8:aaaf517, Oct 11 2022, 16:50:30) [MSC v.1933 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.

>>>
===== RESTART: C:/Users/admin/Downloads/python.py =====
The patient is diagnosed with flu.
>>> |
```

