

POAexp7.py - C:/Users/welcome/AppData/Local/Programs/Python/Python311/POAexp7.py (3.11.5)

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 3.11.5 window. The window has a title bar with the text "IDLE Shell 3.11.5" and standard Windows window controls (minimize, maximize, close). Below the title bar is a menu bar with the following items: File, Edit, Shell, Debug, Options, Window, and Help. The main area of the window is a text editor with a white background and a vertical scrollbar on the right. The text in the editor is as follows:

```
>>> Python 3.11.5 (tags/v3.11.5:coe6ba9, Aug 24 2023, 14:38:34) [MSC v.1936 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.

>>> = RESTART: C:/Users/welcome/AppData/Local/Programs/Python/Python311/POAIexp7.py
The patient is diagnosed with flu.

>>> |
```