```python
knowledge_base = [
    (["cough", "fever"], "flu"),
    (["sore_throat", "runny_nose"], "cold"),
    (["sore_throat"], "fever")
]
facts = {"cough", "sore_throat"}
def forward_chaining():
    inferred = True
    while inferred:
        inferred = False
        for conditions, conclusion in knowledge_base:
            if all(condition in facts for condition in conditions) and conclusion not in facts:
                facts.add(conclusion)
                inferred = True
forward_chaining()
if "flu" in facts:
    print("The patient is diagnosed with flu.")
elif "cold" in facts:
    print("The patient is diagnosed with cold.")
else:
    print("No conclusive diagnosis could be made.")
```

File Edit Shell Debug Options Window Help

```
Python 3.11.5 (tags/v3.11.5:cce6ba9, 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/POAIexp8.py
The patient is diagnosed with flu.

= RESTART: C:/Users/welcome/AppData/Local/Programs/Python/Python311/POAIexp8.py
The patient is diagnosed with flu.
>>>
```