

## **IMPLEMENTATION OF FORWARD CHAINING**

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**Program:**

```
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.")
```

**Output:**

```
The patient is diagnosed with flu.  
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=== Code Execution Successful ===
```