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Class: AI&DS "FD"

```
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()  
  
# Check if flu or cold is inferred  
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.")
```

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