

The goal 'f' cannot be achieved.

[Program finished]

```
1 #Niranjan.v.2024.aiml@rajalalshmi.edu.in
2 facts = {
3     'a': True,
4     'b': True,
5     'c': False
6 }
7
8 rules = [
9     ('d', ['a', 'b']),
10    ('e', ['b', 'c']),
11    ('f', ['d', 'e'])
12 ]
13 def backward_chaining(goal, facts, rules):
14
15     if goal in facts:
16         return facts[goal]
17
18
19     for head, body in rules:
20         if head == goal:
21
22             if all(backward_chaining(condition, facts,
23 rules) for condition in body):
24                 return True
25
26     return False
27
28 goal = 'f'
29
30 if backward_chaining(goal, facts, rules):
31     print(f"The goal '{goal}' can be achieved.")
32 else:
33     print(f"The goal '{goal}' cannot be achieved.")
```