Backward Chaining

Aim:

To implement Backward Chaining

Code:

```
def backward_chaining(rules, facts, goal):
    if goal in facts:
        return True

    if goal in rules:
        for premises in rules[goal]:
            if all(backward_chaining(rules, facts, premise) for premise in
premises):
                return True
    return False
rules = {
    'A': [['B', 'C']],
    'B': [['D', 'E']],
    'C': [['F']],
    'D': [], # D is a fact
    'E': [], # E is a fact
    'F': [] # F is a fact
}
facts = {'D', 'E', 'F'}
goal = 'A'
if backward_chaining(rules, facts, goal):
  print(f"{goal} can be proven.")
else:
  print(f"{goal} cannot be proven.")
```

Output:

A can be proven.

Result:

Backward Chaining implemented successfully.