

```

2 def negate(literal):
3     return literal[1:] if literal.startswith("~") else "~"
  + literal
4 def resolve(ci, cj):
5     for lit in ci:
6         if negate(lit) in cj:
7             new_clause = list(set(ci + cj))
8             new_clause.remove(lit)
9             new_clause.remove(negate(lit))
10            return [new_clause]
11    return []
12 def resolution(kb, query):
13     clauses = kb + [[negate(q)] for q in query]
14     while True:
15         new = []
16         for i in range(len(clauses)):
17             for j in range(i + 1, len(clauses)):
18                 resolvents = resolve(clauses[i],
clauses[j])
19                 if [] in resolvents:
20                     return True
21                 for r in resolvents:
22                     if r not in new:
23                         new.append(r)
24                 if all(n in clauses for n in new):
25                     return False
26                 clauses += new
27 kb = ["~P", "Q"], ["P"], ["~Q", "R"], ["~R"]
28 query = ["R"]
29 print("Knowledge Base:", kb)
30 print("Query:", query)
31 print("The query is satisfiable." if resolution(kb,
query) else "The query is not satisfiable.")

```

Knowledge Base: [['~P', 'Q'], ['P'], ['~Q', 'R'], ['~R']]

Query: ['R']

The query is satisfiable.

[Program finished]