**6.Implementation of Forward Chaining**

**Aim:** To Implement Forward Chaining

**Code:**

def forward\_chaining(kb, facts):

newly\_inferred = set()

for conclusion, premises\_list in kb.items():

for premises in premises\_list:

all\_premises\_in\_facts = all(premise in facts for premise in premises)

if all\_premises\_in\_facts and conclusion not in facts:

newly\_inferred.add(conclusion)

if newly\_inferred:

print(f"Inferred new facts: {newly\_inferred}")

facts.update(newly\_inferred)

forward\_chaining(kb, facts)

else:

print("Forward chaining complete. No new facts inferred.")

print("\nApplying Forward Chaining with current facts and knowledge base:")

forward\_chaining(knowledge\_base, facts)

print("\nFacts after forward chaining:", facts)

**OUT PUT:**

**facts = {**

**'has\_hair',**

**'has\_pointed\_teeth',**

**'has\_claws',**

**'has\_forward\_eyes',**

**'has\_spotted\_coat',**

**'eats\_meat',**

**'mammal',**

**'carnivore',**

**'cheetah'**

**}**