KB = {

a. CanBikeToWork → CanGetToWork

b. CanDriveToWork → CanGetToWork

c. CanWalkToWork → CanGetToWork

d. HaveBike ∧ WorkCloseToHome ∧ Sunny → CanBikeToWork

e. HaveMountainBike → HaveBike

f. HaveTenSpeed → HaveBike

g. OwnCar → CanDriveToWork

h. OwnCar → MustGetAnnualInspection

i. OwnCar → MustHaveValidLicense

j. CanRentCar → CanDriveToWork

k. HaveMoney ∧ CarRentalOpen → CanRentCar

l. HertzOpen→ CarRentalOpen

m. AvisOpen→ CarRentalOpen

n. EnterpriseOpen→ CarRentalOpen

o. CarRentalOpen → IsNotAHoliday

p. HaveMoney ∧ TaxiAvailable → CanDriveToWork

q. Sunny ∧ WorkCloseToHome → CanWalkToWork

r. HaveUmbrella ∧ WorkCloseToHome → CanWalkToWork

s. Sunny → StreetsDry

}

Facts: { Rainy, HaveMoutainBike, EnjoyPlayingSoccer, WorkForUniversity, WorkCloseToHome, HaveMoney, HertzClosed, AvisOpen, McDonaldsOpen }

Show all the inferences that can be derived by Forward-Chaining. 'CanGetToWork' should be among them. Show the agenda at each step, show which rules are triggered, and indicate when new inferences are made (the first time they are inferred).

|  |  |  |
| --- | --- | --- |
| *Inferred* | *Agenda* | *Reason* |
|  | Rainy, HaveMoutainBike, EnjoyPlayingSoccer, WorkForUniversity, WorkCloseToHome, HaveMoney, HertzClosed, AvisOpen, McDonaldsOpen |  |
| Rainy | HaveMoutainBike, EnjoyPlayingSoccer, WorkForUniversity, WorkCloseToHome, HaveMoney, HertzClosed, AvisOpen, McDonaldsOpen | Just pop rainy because there is no new facts from rainy! |
| HaveMountainBike | EnjoyPlayingSoccer, WorkForUniversity, WorkCloseToHome, HaveMoney, HertzClosed, AvisOpen, McDonaldsOpen, HaveBike | Add HaveBike into the queue |
| EnjoyPlayingSoccer, WorkForUniversity, WorkCloseToHome, HaveMoney, HertzClosed | AvisOpen, McDonaldsOpen, HaveBike | Just pop these since there are no new facts from them! |
| AvisOpen | McDonaldsOpen, HaveBike, CarRentalOpen | Add the CarRentalOpen into the queue! |
| McDonaldsOpen, HaveBike | CarRentalOpen | Just pop McDonalds open and HaveBike because there is no new facts to unlock from it! |
| CarRentalOpen | CanRentCar, IsNotAHoliday | Add can rent car and is not a holiday to the queue! |
| CanRentCar | IsNotAHoliday, CanDriveToWork | Add can drive to work into the queue! |
| IsNotAHoliday | CanDriveToWork | Just pop is not holiday because there is no new facts to unlock from it! |
| CanDriveToWork | CanGetToWork | Add can get to work into the queue! |
| CanGetToWork |  | //found our solution! |