Experiment Number: 7

Problem Statement:

NAME: Arpit Patil  ROLLNO: 51

CLASS: IT-A BATCH: B2

DATE OF PERFORMANCE:

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PROGARM:

1. Knowledge base 1

woman(mia).

woman(jody).

woman(yolanda).

playsAirGuitar(jody).

party.

Output:-

1 ?- tattoed(jody).

ERROR: Unknown procedure: tattoed/1 (DWIM could not correct goal)

2 ?- party.

true.

3 ?- rockConnect

.

ERROR: Unknown procedure: rockConnect/0 (DWIM could not correct goal)

4 ?- woman(X).

X = mia ;

X = jody ;

X = yolanda.

5 ?- playsAirGuitar(X).

X = jody.

1. Knowledge base 2

happy(yolanda).

listens2music(mia).

listens2music(yolanda):- happy(yolanda).

playsAirGuitar(mia):- listens2music(mia).

playsAirGuitar(yolanda):- listens2music(yolanda).

Output:-

1 ?- happy(X).

X = yolanda.

2 ?- listens2music(X).

X = mia ;

X = yolanda.

3 ?- playsAirGuitar(yolanda).

true.

4 ?- playsAirGuitar(X).

X = mia ;

X = yolanda.

1. Knowledge base 3

happy(vincent).

listens2music(butch).

playsAirGuitar(vincent):- listens2music(vincent), happy(vincent).

playsAirGuitar(butch):- happy(butch).

playsAirGuitar(butch):- listens2music(butch).

Output:

1 ?- happy(X).

X = vincent.

2 ?- playsAirGuitar(vincent).

false.

3 ?- playsAirGuitar(butch).

true.

4 ?- playsAirGuitar(X).

X = butch.

1. Knowledge base 4

woman(mia).

woman(jody).

woman(yolanda).

loves(vincent, mia).

loves(marsellus, mia).

loves(pumpkin, honey\_bunny).

loves(honey\_bunny, pumpkin).

Output:-

1 ?- woman(X).

X = mia ;

X = jody ;

X = yolanda.

2 ?- loves(marsellus,X), woman(X).

X = mia.

3 ?- loves(pumpkin,X), woman(X).

false.

1. Knowledge base 5

loves(vincent,mia).

loves(marsellus,mia).

loves(pumpkin, honey\_bunny).

loves(honey\_bunny, pumpkin).

jealous(X,Y):- loves(X,Z), loves(Y,Z).

Output:-

1 ?- jealous(marsellus,W).

W = vincent ;

W = marsellus.

2 ?- woman(X).

ERROR: Unknown procedure: woman/1 (DWIM could not correct goal)

3 ?- loves(X, mia).

X = vincent ;

X = marsellus.

1. Knowledge base

symptom(charlie,fever).

symptom(charlie,rash).

symptom(charlie,head\_ache).

symptom(charlie,runny\_nose).

symptom(arpit,fever).

symptom(arpit,chills).

symptom(arpit,body\_ache).

symptom(arpit,rash).

hypothesis(Patient,measles):-symptom(Patient,fever),symptom(Patient,cough),

                         symptom(Patient,conjuctivites),symptom(Patient,runny\_nose),

                         symptom(Patient,rash).

hypothesis(Patient,german\_measles):-symptom(Patient,fever),

                                  symptom(Patient,head\_ache),

                                  symptom(Patient,runny\_nose),

                                  symptom(Patient,rash).

hypothesis(Patient,flu):-symptom(Patient,fever),

                                  symptom(Patient,head\_ache),

                                  symptom(Patient,body\_ache),

                                  symptom(Patient,conjuctivites),

                                  symptom(Patient,chills),

                                  symptom(Patient,sore\_throat),

                                  symptom(Patient,runny\_nose),

                                  symptom(Patient,cough).

hypothesis(Patient,chicken\_pox) :- symptom(Patient,fever),

                                   symptom(Patient,chills),

                                  symptom(Patient,body\_ache),

                                   symptom(Patient,rash).

Output:-

1 ?- hypothesis(arpit, X).

X = chicken\_pox.

2 ?- hypothesis(charlie, X).

X = german\_measles ;

false.

1. Kowledge base 7

symptom(john, fever).

symptom(john, cough).

symptom(john, shortness\_of\_breath).

symptom(lisa, headache).

symptom(lisa, nausea).

symptom(lisa, dizziness).

symptom(lisa, fatigue).

symptom(peter, fever).

symptom(peter, body\_ache).

symptom(peter, fatigue).

symptom(peter, sore\_throat).

symptom(peter, runny\_nose).

hypothesis(Patient, covid\_19) :-

    symptom(Patient, fever),

    symptom(Patient, cough),

    symptom(Patient, shortness\_of\_breath).

hypothesis(Patient, migraine) :-

    symptom(Patient, headache),

    symptom(Patient, nausea),

    symptom(Patient, dizziness).

hypothesis(Patient, flu) :-

    symptom(Patient, fever),

    symptom(Patient, body\_ache),

    symptom(Patient, fatigue),

    symptom(Patient, sore\_throat),

    symptom(Patient, runny\_nose).

hypothesis(Patient, common\_cold) :-

    symptom(Patient, runny\_nose),

    symptom(Patient, sore\_throat),

    symptom(Patient, cough).

hypothesis(Patient, unknown) :-

    writeln('Unable to diagnose. More information is needed.').

Output:-

1 ?- hypothesis(john, Disease).

Disease = covid\_19 ;

Unable to diagnose. More information is needed.

Disease = unknown.

2 ?- hypothesis(lisa, Disease).

Disease = migraine ;

Unable to diagnose. More information is needed.

Disease = unknown.

3 ?- hypothesis(peter, Disease).

Disease = flu ;

Unable to diagnose. More information is needed.

Disease = unknown.