27.Write the prolog program for Medical Diagnosis

% Knowledge Base: Symptoms for diseases

% Disease rules

disease(flu) :-

symptom(fever),

symptom(cough),

symptom(sore\_throat),

symptom(body\_ache).

disease(cold) :-

symptom(cough),

symptom(sneezing),

symptom(runny\_nose),

symptom(sore\_throat).

disease(covid19) :-

symptom(fever),

symptom(cough),

symptom(loss\_of\_taste),

symptom(breathing\_difficulty).

disease(malaria) :-

symptom(fever),

symptom(chills),

symptom(sweating),

symptom(headache).

disease(typhoid) :-

symptom(fever),

symptom(abdominal\_pain),

symptom(fatigue),

symptom(constipation).

% Dynamic declaration to allow user input

:- dynamic symptom/1.

% Start diagnosis

start :-

write('Medical Diagnosis Expert System'), nl,

write('Answer yes/no for the following symptoms:'), nl,

ask\_symptom(fever),

ask\_symptom(cough),

ask\_symptom(sore\_throat),

ask\_symptom(body\_ache),

ask\_symptom(sneezing),

ask\_symptom(runny\_nose),

ask\_symptom(loss\_of\_taste),

ask\_symptom(breathing\_difficulty),

ask\_symptom(chills),

ask\_symptom(sweating),

ask\_symptom(headache),

ask\_symptom(abdominal\_pain),

ask\_symptom(fatigue),

ask\_symptom(constipation),

diagnose.

% Asking the user about symptoms

ask\_symptom(Symptom) :-

format('Do you have ~w? ', [Symptom]),

read(Response),

( (Response == yes ; Response == y) ->

assertz(symptom(Symptom)) ;

true ).

% Diagnosing disease

diagnose :-

disease(Disease),

format('You may have: ~w', [Disease]), nl, fail.

diagnose :-

\+ disease(\_),

write('Sorry, the system could not diagnose your condition based on current symptoms.').

% Clear memory

reset :-

retractall(symptom(\_)).

Output:

