**AI LAB ASSIGNMENT 6**

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**Implement Expert System**

**CODE: (Car Diagnosis)**

% Facts

% Known car problems

problem(engine\_failure).

problem(battery\_issue).

problem(flat\_tire).

problem(brake\_issue).

problem(oil\_leak).

problem(overheating).

problem(transmission\_issue).

% Symptoms associated with problems

symptom(engine\_failure, loud\_noise).

symptom(engine\_failure, engine\_stalling).

symptom(battery\_issue, headlights\_dim).

symptom(battery\_issue, car\_wont\_start).

symptom(flat\_tire, tire\_flatter).

symptom(flat\_tire, car\_pull\_to\_side).

symptom(brake\_issue, squeaking\_brakes).

symptom(brake\_issue, brake\_warning\_light).

symptom(oil\_leak, oil\_spots).

symptom(oil\_leak, engine\_smoke).

symptom(overheating, temperature\_warning\_light).

symptom(overheating, steam\_from\_engine).

symptom(transmission\_issue, slipping\_gears).

symptom(transmission\_issue, unusual\_noises).

% Rules

% Diagnose the problem based on symptoms

diagnose(Problem) :-

symptom(Problem, Symptom),

ask\_symptom(Symptom).

% Ask user about a symptom

ask\_symptom(Symptom) :-

format('Do you see the symptom: ~w? (yes/no) ', [Symptom]),

read(Response),

(Response == yes -> true; fail).

% Start the diagnosis process

start\_diagnosis :-

write('Welcome to the Car Problem Diagnosis Expert System.'), nl,

(diagnose(Problem) ->

format('The potential problem with your car is: ~w', [Problem])

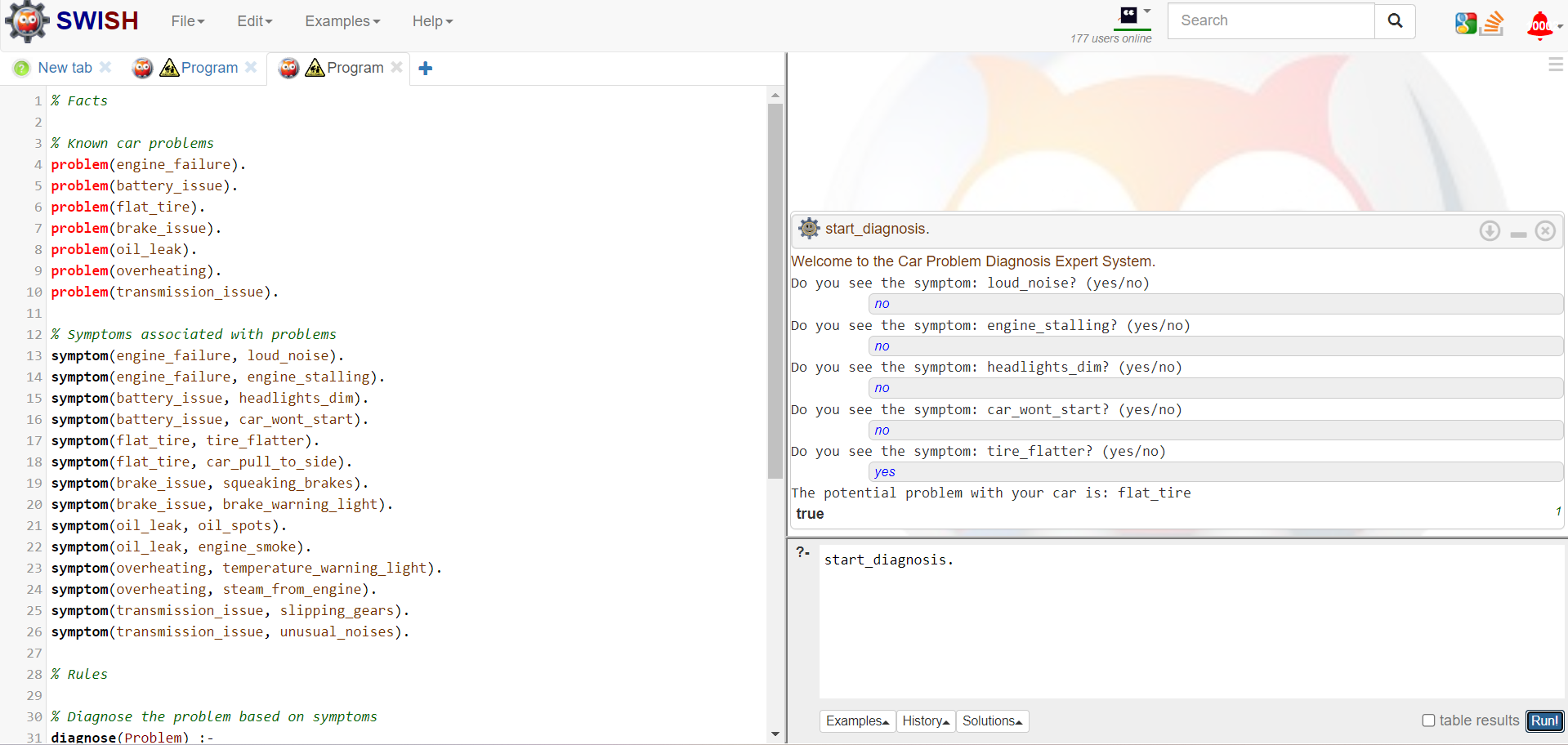
;

write('No problems detected based on the symptoms provided.')).

% To start the diagnosis, call:

% ?- start\_diagnosis.

**OUTPUT:**



Facts, Rules, Queries:

