EXPERIMENT:30 Write a Prolog Program for backward Chaining. Incorporate required queries.

PROGRAM:

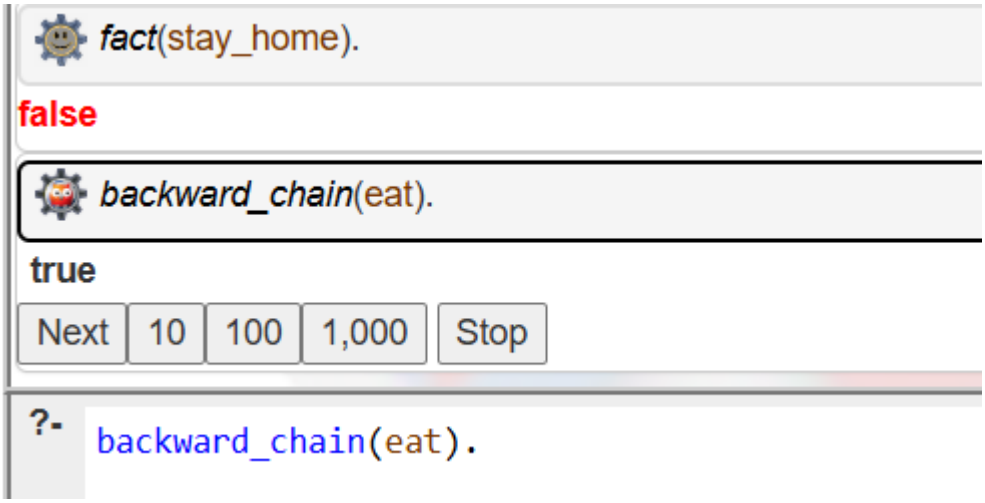
```
% Facts
fact(hungry).
fact(raining).
fact(fever).

% Rules (if conditions are true, then goal can be concluded)
rule(eat, [hungry]).
rule(stay_home, [raining]).
rule(take_medicine, [fever]).

% Backward chaining: check if a goal can be satisfied
backward_chain(Goal) :-
    fact(Goal).  % Goal is already a known fact

backward_chain(Goal) :-
    rule(Goal, Conditions),
    prove_all(Conditions).
% Helper: prove all conditions for a rule
prove_all([]).
prove_all([H|T]) :-
    backward_chain(H),
    prove_all(T).
```

OUTPUT:


fact(stay_home).
false
backward_chain(eat).
true
Next
10
100
1,000
Stop
?-
backward_chain(eat).