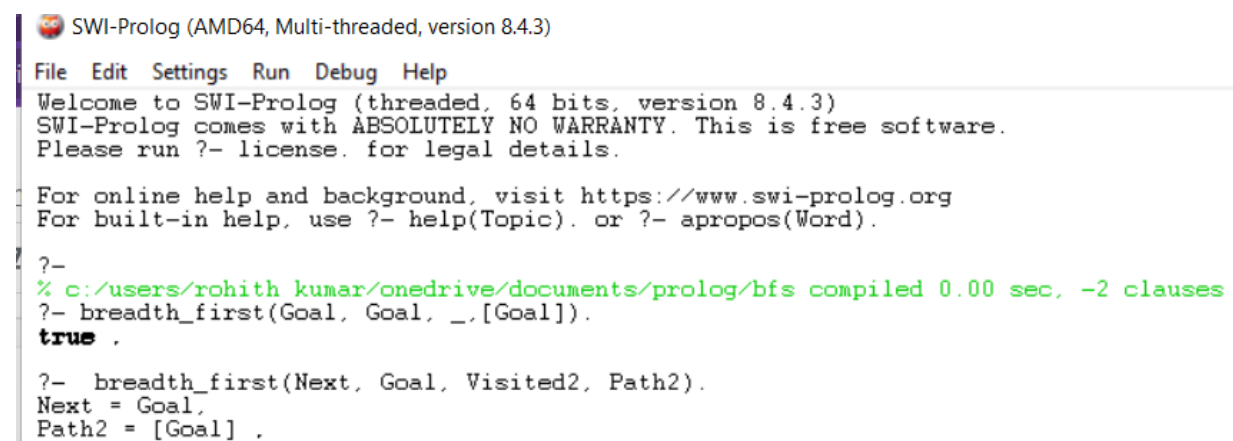


21. Write a Prolog Program to implement Best First Search algorithm.

Program:

```
breadth_first(Goal, Goal, _, [Goal]).
breadth_first(Start, Goal, Visited, Path) :-
    findall(X,
        (connected2(X, Start, _), not(member(X, Visited))),
        [T|Extend]),
    write(Visited), nl,
    append(Visited, [T|Extend], Visited2),
    append(Path, [T|Extend], [Next|Path2]),
    breadth_first(Next, Goal, Visited2, Path2).
```

OUTPUT:



```
SWI-Prolog (AMD64, Multi-threaded, version 8.4.3)
File Edit Settings Run Debug Help
Welcome to SWI-Prolog (threaded, 64 bits, version 8.4.3)
SWI-Prolog comes with ABSOLUTELY NO WARRANTY. This is free software.
Please run ?- license. for legal details.

For online help and background, visit https://www.swi-prolog.org
For built-in help, use ?- help(Topic). or ?- apropos(Word).

?-
% c:/users/rohith kumar/onedrive/documents/prolog/bfs compiled 0.00 sec, -2 clauses
?- breadth_first(Goal, Goal, _, [Goal]).
true .

?- breadth_first(Next, Goal, Visited2, Path2).
Next = Goal,
Path2 = [Goal] ,
```