

AI ASSIGNMENT – 7

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Write a PROLOG code to implement Maze.

Source Code:

```
% Maze Problem in Prolog
w(0,0).
w(0,1). w(1,1). w(2,1). w(3,1). w(4,1). w(5,1).
w(1,2).          w(3,2).          w(5,2).          w(1,3).
w(3,3).          w(5,3). w(0,4). w(1,4). w(2,4).
w(4,4). w(5,4).          w(2,5). w(3,5). w(4,5).
d(X0,Y0,X,Y) :- next_w(X0,Y0,X,Y),
w(X,Y). next_w(X0,Y0,X0,Y) :- Y is Y0+1.
next_w(X0,Y0,X,Y0) :- X is X0+1.
next_w(X0,Y0,X0,Y) :- Y is Y0-1.
next_w(X0,Y0,X,Y0) :- X is X0-1.
go(X,Y,X,Y,Path,Path).
go(X0,Y0,X,Y,SoFar,Path) :-
d(X0,Y0,X1,Y1),
\+ memberchk( w(X1,Y1), SoFar ),
go(X1,Y1,X,Y,[w(X1,Y1)|SoFar],Path).
```

OUTPUT:

GNU Prolog console

File Edit Terminal Prolog Help

GNU Prolog 1.5.0 (64 bits)

compiled Jul 8 2021, 12:22:53 with gcc

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compiling C:/Users/Sourabh Patel/Desktop/assignment/82/SEM6/AI/ASS7/Q1.pl for byte code...

C:/Users/Sourabh Patel/Desktop/assignment/82/SEM6/AI/ASS7/Q1.pl compiled, 16 lines read - 4037 bytes written, 27 ms

?- consult('Q1.pl').

compiling C:/Users/Sourabh Patel/Desktop/assignment/82/SEM6/AI/ASS7/Q1.pl for byte code...

C:/Users/Sourabh Patel/Desktop/assignment/82/SEM6/AI/ASS7/Q1.pl compiled, 16 lines read - 4037 bytes written, 9 ms

es

?- go(0,0,1,1,[],Path).

ath = [w(1,1),w(0,1)] ? ;

o

?- go(0,0,2,1,[],Path).

ath = [w(2,1),w(3,1),w(4,1),w(5,1),w(5,2),w(5,3),w(5,4),w(4,4),w(4,5),w(3,5),w(2,5),w(2,4),w(1,4),w(1,3),w(1,2),w(1,1),w(0,1)] ? ;

ath = [w(2,1),w(1,1),w(0,1)] ? ;

15 ms) no

?- go(0,0,5,4,[],Path).

ath = [w(5,4),w(4,4),w(4,5),w(3,5),w(2,5),w(2,4),w(1,4),w(1,3),w(1,2),w(1,1),w(0,1)] ? ;

ath = [w(5,4),w(5,3),w(5,2),w(5,1),w(4,1),w(3,1),w(2,1),w(1,1),w(0,1)] ? ;

78 ms) no

?-