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PROLOG LAB MANUAL

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Aim 4 :

WAP in turbo prolog for medical diagnosis and show the advantages and disadvantages of green and red cuts.

Solution :

% Facts

/* Description:

This object of this famous puzzle is to move N disks from the left peg to the right peg using the center peg as an auxiliary holding peg. At no time can a larger disk be placed upon a smaller disk. The following diagram depicts the starting setup for N=3 disks.

*/

% Production rules:

hanoi(N) :- move(N,left,middle,right).

move(1,A,_C) :- inform(A,C),fail.

move(N,A,B,C) :- N1=N-1,move(N1,A,C,B),inform(A,C),move(N1,B,A,C).

% Domains:

loc =right;middle;left

% Predicates:

hanoi(integer)

move(integer,loc,loc,loc)

inform(loc,loc)

% Clauses:

hanoi(N):-

 move(N,left,middle,right).

move(1,A,_,C):-

 inform(A,C),!.

move(N,A,B,C):-

 N1=N-1,

 move(N1,A,C,B),

 inform(A,C),

 move(N1,B,A,C).

inform(Loc1, Loc2):-

 write("\nMove a disk from ", Loc1, " to ", Loc2).

Output:

% Queries:

?- can_reach(A, B).

A = monkey.

B = banana.

?- can_reach(monkey, banana).

Yes.