% ------------------------------------

% Towers of Hanoi in Prolog

% ------------------------------------

% hanoi(N, Source, Target, Auxiliary)

% Move N disks from Source to Target using Auxiliary.

hanoi(1, Source, Target, \_) :-

write('Move disk 1 from '), write(Source),

write(' to '), write(Target), nl.

hanoi(N, Source, Target, Auxiliary) :-

N > 1,

M is N - 1,

hanoi(M, Source, Auxiliary, Target),

write('Move disk '), write(N), write(' from '),

write(Source), write(' to '), write(Target), nl,

hanoi(M, Auxiliary, Target, Source).

% ------------------------------------

% Main Program (runs automatically)

% ------------------------------------

:- initialization(main).

main :-

nl, write('--- Towers of Hanoi ---'), nl,

write('Moving 3 disks:'), nl, nl,

hanoi(3, left, right, middle),

halt.