%% Prolog code

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%%

:- style\_check(-singleton).

:- style\_check(-discontiguous).

'gdl\_role'(p1).

'gdl\_role'(p2).

'gdl\_init'('roleOfPlayer'(p1, +)).

'gdl\_init'('roleOfPlayer'(p2, \*)).

'gdl\_init'('cell'(1, 1, +)).

'gdl\_init'('cell'(1, 2, b)).

'gdl\_init'('cell'(1, 3, b)).

'gdl\_init'('cell'(1, 4, b)).

'gdl\_init'('cell'(1, 5, b)).

'gdl\_init'('cell'(1, 6, b)).

'gdl\_init'('cell'(1, 7, +)).

'gdl\_init'('cell'(2, 1, b)).

'gdl\_init'('cell'(2, 2, b)).

'gdl\_init'('cell'(2, 3, b)).

'gdl\_init'('cell'(2, 4, b)).

'gdl\_init'('cell'(2, 5, b)).

'gdl\_init'('cell'(2, 6, b)).

'gdl\_init'('cell'(2, 7, b)).

'gdl\_init'('cell'(3, 1, b)).

'gdl\_init'('cell'(3, 2, b)).

'gdl\_init'('cell'(3, 3, b)).

'gdl\_init'('cell'(3, 4, b)).

'gdl\_init'('cell'(3, 5, b)).

'gdl\_init'('cell'(3, 6, b)).

'gdl\_init'('cell'(3, 7, b)).

'gdl\_init'('cell'(4, 1, b)).

'gdl\_init'('cell'(4, 2, b)).

'gdl\_init'('cell'(4, 3, b)).

'gdl\_init'('cell'(4, 4, \*)).

'gdl\_init'('cell'(4, 5, b)).

'gdl\_init'('cell'(4, 6, b)).

'gdl\_init'('cell'(4, 7, b)).

'gdl\_init'('cell'(5, 1, b)).

'gdl\_init'('cell'(5, 2, b)).

'gdl\_init'('cell'(5, 3, b)).

'gdl\_init'('cell'(5, 4, b)).

'gdl\_init'('cell'(5, 5, b)).

'gdl\_init'('cell'(5, 6, b)).

'gdl\_init'('cell'(5, 7, b)).

'gdl\_init'('cell'(6, 1, b)).

'gdl\_init'('cell'(6, 2, b)).

'gdl\_init'('cell'(6, 3, b)).

'gdl\_init'('cell'(6, 4, b)).

'gdl\_init'('cell'(6, 5, b)).

'gdl\_init'('cell'(6, 6, b)).

'gdl\_init'('cell'(6, 7, b)).

'gdl\_init'('cell'(7, 1, +)).

'gdl\_init'('cell'(7, 2, b)).

'gdl\_init'('cell'(7, 3, b)).

'gdl\_init'('cell'(7, 4, b)).

'gdl\_init'('cell'(7, 5, b)).

'gdl\_init'('cell'(7, 6, b)).

'gdl\_init'('cell'(7, 7, +)).

'gdl\_init'('count'(1)).

'gdl\_init'('step'(1)).

'gdl\_init'('round'(1)).

'gdl\_init'('catchedThrough'(0)).

'gdl\_init'('control'(p2)).

'gdl\_next'('cell'(X, Y, b), GdlState, GdlMoves) :-

'gdl\_does'(Player, 'move'(X, Y, M, N), GdlState, GdlMoves).

'gdl\_next'('cell'(X, Y, State), GdlState, GdlMoves) :-

'gdl\_true'('roleOfPlayer'(Player, State), GdlState),

'gdl\_does'(Player, 'move'(M, N, X, Y), GdlState, GdlMoves).

'gdl\_next'('cell'(X3, Y3, State), GdlState, GdlMoves) :-

'gdl\_true'('cell'(X3, Y3, State), GdlState),

'gdl\_does'(Player, 'move'(X1, Y1, X2, Y2), GdlState, GdlMoves),

'gdl\_distinctCell'(X1, Y1, X3, Y3, GdlState, GdlMoves),

'gdl\_distinctCell'(X2, Y2, X3, Y3, GdlState, GdlMoves).

'gdl\_next'('cell'(X, Y, State), GdlState, GdlMoves) :-

'gdl\_catched'(GdlState, GdlMoves),

'gdl\_init'('cell'(X, Y, State)).

'gdl\_next'('cell'(X, Y, State), GdlState, GdlMoves) :-

'gdl\_startNewRound'(GdlState, GdlMoves),

'gdl\_init'('cell'(X, Y, State)).

'gdl\_next'('count'(N), GdlState, GdlMoves) :-

'gdl\_not'(('gdl\_catched'(GdlState, GdlMoves))),

'gdl\_true'('count'(M), GdlState),

'gdl\_pls'(M, N),

'gdl\_distinct'(M, 25).

'gdl\_next'('count'(0), GdlState, GdlMoves) :-

'gdl\_catched'(GdlState, GdlMoves).

'gdl\_next'('count'(0), GdlState, GdlMoves) :-

'gdl\_true'('count'(25), GdlState).

'gdl\_next'('round'(2), GdlState, GdlMoves) :-

'gdl\_startNewRound'(GdlState, GdlMoves).

'gdl\_next'('round'(X), GdlState, GdlMoves) :-

'gdl\_true'('round'(X), GdlState),

'gdl\_not'(('gdl\_startNewRound'(GdlState, GdlMoves))).

'gdl\_next'('step'(N), GdlState, GdlMoves) :-

'gdl\_true'('step'(M), GdlState),

'gdl\_pls'(M, N).

'gdl\_next'('control'(p1), GdlState, GdlMoves) :-

'gdl\_true'('control'(p2), GdlState).

'gdl\_next'('control'(p2), GdlState, GdlMoves) :-

'gdl\_true'('control'(p1), GdlState).

'gdl\_next'('roleOfPlayer'(Player, Role), GdlState, GdlMoves) :-

'gdl\_not'(('gdl\_startNewRound'(GdlState, GdlMoves))),

'gdl\_true'('roleOfPlayer'(Player, Role), GdlState).

'gdl\_next'('roleOfPlayer'(p1, \*), GdlState, GdlMoves) :-

'gdl\_startNewRound'(GdlState, GdlMoves).

'gdl\_next'('roleOfPlayer'(p2, +), GdlState, GdlMoves) :-

'gdl\_startNewRound'(GdlState, GdlMoves).

'gdl\_next'('catchedThrough'(1), GdlState, GdlMoves) :-

'gdl\_catched'(GdlState, GdlMoves),

'gdl\_true'('round'(1), GdlState),

'gdl\_true'('catchedThrough'(0), GdlState).

'gdl\_next'('catchedThrough'(X), GdlState, GdlMoves) :-

'gdl\_true'('catchedThrough'(X), GdlState).

'gdl\_legal'(Player, 'move'(X, Y, NewX, NewY), GdlState) :-

'gdl\_not'(('gdl\_startNewRound'(GdlState, GdlMoves))),

'gdl\_true'('control'(Player), GdlState),

'gdl\_true'('roleOfPlayer'(Player, State), GdlState),

'gdl\_true'('cell'(X, Y, State), GdlState),

'gdl\_true'('cell'(NewX, NewY, b), GdlState),

'gdl\_adjacentD'(X, Y, NewX, NewY, GdlState, GdlMoves).

'gdl\_legal'(Player, 'move'(X, Y, NewX, NewY), GdlState) :-

'gdl\_not'(('gdl\_startNewRound'(GdlState, GdlMoves))),

'gdl\_true'('cell'(X, Y, +), GdlState),

'gdl\_true'('cell'(NewX, NewY, b), GdlState),

'gdl\_adjacent'(X, Y, NewX, NewY, GdlState, GdlMoves),

'gdl\_true'('roleOfPlayer'(Player, +), GdlState),

'gdl\_true'('control'(Player), GdlState).

'gdl\_legal'(Player, 'move'(X, Y, NewX, Y), GdlState) :-

'gdl\_not'(('gdl\_startNewRound'(GdlState, GdlMoves))),

'gdl\_true'('cell'(X, Y, +), GdlState),

'gdl\_true'('cell'(NewX, Y, b), GdlState),

'gdl\_pls'(X, M),

'gdl\_pls'(M, NewX),

'gdl\_true'('roleOfPlayer'(Player, +), GdlState),

'gdl\_true'('control'(Player), GdlState).

'gdl\_legal'(Player, 'move'(X, Y, NewX, Y), GdlState) :-

'gdl\_not'(('gdl\_startNewRound'(GdlState, GdlMoves))),

'gdl\_true'('roleOfPlayer'(Player, +), GdlState),

'gdl\_true'('cell'(X, Y, +), GdlState),

'gdl\_true'('cell'(NewX, Y, b), GdlState),

'gdl\_sb'(X, M, GdlState, GdlMoves),

'gdl\_sb'(M, NewX, GdlState, GdlMoves),

'gdl\_true'('control'(Player), GdlState).

'gdl\_legal'(Player, 'move'(X, Y, X, NewY), GdlState) :-

'gdl\_not'(('gdl\_startNewRound'(GdlState, GdlMoves))),

'gdl\_true'('cell'(X, Y, +), GdlState),

'gdl\_true'('roleOfPlayer'(Player, +), GdlState),

'gdl\_true'('cell'(X, NewY, b), GdlState),

'gdl\_pls'(Y, M),

'gdl\_pls'(M, NewY),

'gdl\_true'('control'(Player), GdlState).

'gdl\_legal'(Player, 'move'(X, Y, X, NewY), GdlState) :-

'gdl\_not'(('gdl\_startNewRound'(GdlState, GdlMoves))),

'gdl\_true'('cell'(X, Y, +), GdlState),

'gdl\_true'('cell'(X, NewY, b), GdlState),

'gdl\_sb'(Y, M, GdlState, GdlMoves),

'gdl\_sb'(M, NewY, GdlState, GdlMoves),

'gdl\_true'('roleOfPlayer'(Player, +), GdlState),

'gdl\_true'('control'(Player), GdlState).

'gdl\_legal'(p1, noop, GdlState) :-

'gdl\_not'(('gdl\_startNewRound'(GdlState, GdlMoves))),

'gdl\_true'('control'(p2), GdlState).

'gdl\_legal'(p2, noop, GdlState) :-

'gdl\_not'(('gdl\_startNewRound'(GdlState, GdlMoves))),

'gdl\_true'('control'(p1), GdlState).

'gdl\_legal'(p2, noop, GdlState) :-

'gdl\_startNewRound'(GdlState, GdlMoves).

'gdl\_legal'(p1, noop, GdlState) :-

'gdl\_startNewRound'(GdlState, GdlMoves).

'gdl\_legal'(p2, noop, GdlState) :-

'gdl\_catched'(GdlState, GdlMoves).

'gdl\_goal'(p1, 100, GdlState) :-

'gdl\_true'('catchedThrough'(1), GdlState),

'gdl\_not'(('gdl\_catched'(GdlState, GdlMoves))).

'gdl\_goal'(p2, 0, GdlState) :-

'gdl\_true'('catchedThrough'(1), GdlState),

'gdl\_not'(('gdl\_catched'(GdlState, GdlMoves))).

'gdl\_goal'(p2, 100, GdlState) :-

'gdl\_true'('catchedThrough'(0), GdlState),

'gdl\_catched'(GdlState, GdlMoves).

'gdl\_goal'(p1, 0, GdlState) :-

'gdl\_true'('catchedThrough'(0), GdlState),

'gdl\_catched'(GdlState, GdlMoves).

'gdl\_goal'(p2, 50, GdlState) :-

'gdl\_true'('catchedThrough'(0), GdlState),

'gdl\_not'(('gdl\_catched'(GdlState, GdlMoves))).

'gdl\_goal'(p2, 50, GdlState) :-

'gdl\_true'('catchedThrough'(1), GdlState),

'gdl\_catched'(GdlState, GdlMoves).

'gdl\_goal'(p1, 50, GdlState) :-

'gdl\_true'('catchedThrough'(0), GdlState),

'gdl\_not'(('gdl\_catched'(GdlState, GdlMoves))).

'gdl\_goal'(p1, 50, GdlState) :-

'gdl\_true'('catchedThrough'(1), GdlState),

'gdl\_catched'(GdlState, GdlMoves).

'gdl\_terminal'(GdlState) :-

'gdl\_true'('round'(2), GdlState),

'gdl\_true'('step'(52), GdlState).

'gdl\_terminal'(GdlState) :-

'gdl\_true'('round'(2), GdlState),

'gdl\_catched'(GdlState, GdlMoves).

'gdl\_catched'(GdlState, GdlMoves) :-

'gdl\_true'('cell'(1, 1, \*), GdlState),

'gdl\_true'('cell'(2, 2, +), GdlState).

'gdl\_catched'(GdlState, GdlMoves) :-

'gdl\_true'('cell'(1, 7, \*), GdlState),

'gdl\_true'('cell'(2, 6, +), GdlState).

'gdl\_catched'(GdlState, GdlMoves) :-

'gdl\_true'('cell'(7, 1, \*), GdlState),

'gdl\_true'('cell'(6, 2, +), GdlState).

'gdl\_catched'(GdlState, GdlMoves) :-

'gdl\_true'('cell'(7, 7, \*), GdlState),

'gdl\_true'('cell'(6, 6, +), GdlState).

'gdl\_catched'(GdlState, GdlMoves) :-

'gdl\_true'('cell'(X, 7, \*), GdlState),

'gdl\_not\_border'(X, GdlState, GdlMoves),

'gdl\_diagonalDownLeft'(X, 7, M3, N3, GdlState, GdlMoves),

'gdl\_diagonalDownRight'(X, 7, M4, N4, GdlState, GdlMoves),

'gdl\_true'('cell'(M3, N3, +), GdlState),

'gdl\_true'('cell'(M4, N4, +), GdlState).

'gdl\_catched'(GdlState, GdlMoves) :-

'gdl\_true'('cell'(X, 1, \*), GdlState),

'gdl\_not\_border'(X, GdlState, GdlMoves),

'gdl\_diagonalUpLeft'(X, 1, M3, N3, GdlState, GdlMoves),

'gdl\_diagonalUpRight'(X, 1, M4, N4, GdlState, GdlMoves),

'gdl\_true'('cell'(M3, N3, +), GdlState),

'gdl\_true'('cell'(M4, N4, +), GdlState).

'gdl\_catched'(GdlState, GdlMoves) :-

'gdl\_true'('cell'(1, Y, \*), GdlState),

'gdl\_not\_border'(Y, GdlState, GdlMoves),

'gdl\_diagonalUpRight'(1, Y, M3, N3, GdlState, GdlMoves),

'gdl\_diagonalDownRight'(1, Y, M4, N4, GdlState, GdlMoves),

'gdl\_true'('cell'(M3, N3, +), GdlState),

'gdl\_true'('cell'(M4, N4, +), GdlState).

'gdl\_catched'(GdlState, GdlMoves) :-

'gdl\_true'('cell'(7, Y, \*), GdlState),

'gdl\_not\_border'(Y, GdlState, GdlMoves),

'gdl\_diagonalUpLeft'(7, Y, M3, N3, GdlState, GdlMoves),

'gdl\_diagonalDownLeft'(7, Y, M4, N4, GdlState, GdlMoves),

'gdl\_true'('cell'(M3, N3, +), GdlState),

'gdl\_true'('cell'(M4, N4, +), GdlState).

'gdl\_catched'(GdlState, GdlMoves) :-

'gdl\_true'('cell'(X, Y, \*), GdlState),

'gdl\_diagonalUpLeft'(X, Y, M1, N1, GdlState, GdlMoves),

'gdl\_diagonalUpRight'(X, Y, M2, N2, GdlState, GdlMoves),

'gdl\_diagonalDownLeft'(X, Y, M3, N3, GdlState, GdlMoves),

'gdl\_diagonalDownRight'(X, Y, M4, N4, GdlState, GdlMoves),

'gdl\_true'('cell'(M1, N1, +), GdlState),

'gdl\_true'('cell'(M2, N2, +), GdlState),

'gdl\_true'('cell'(M3, N3, +), GdlState),

'gdl\_true'('cell'(M4, N4, +), GdlState).

'gdl\_distinctCell'(X, Y, M, N, GdlState, GdlMoves) :-

'gdl\_distinct'(X, M).

'gdl\_distinctCell'(X, Y, M, N, GdlState, GdlMoves) :-

'gdl\_distinct'(Y, N).

'gdl\_diagonalUpLeft'(X1, Y1, X2, Y2, GdlState, GdlMoves) :-

'gdl\_pls'(Y1, Y2),

'gdl\_sb'(X1, X2, GdlState, GdlMoves).

'gdl\_diagonalUpRight'(X1, Y1, X2, Y2, GdlState, GdlMoves) :-

'gdl\_pls'(Y1, Y2),

'gdl\_pls'(X1, X2).

'gdl\_diagonalDownLeft'(X1, Y1, X2, Y2, GdlState, GdlMoves) :-

'gdl\_sb'(Y1, Y2, GdlState, GdlMoves),

'gdl\_sb'(X1, X2, GdlState, GdlMoves).

'gdl\_diagonalDownRight'(X1, Y1, X2, Y2, GdlState, GdlMoves) :-

'gdl\_sb'(Y1, Y2, GdlState, GdlMoves),

'gdl\_pls'(X1, X2).

'gdl\_startNewRound'(GdlState, GdlMoves) :-

'gdl\_true'('count'(0), GdlState).

'gdl\_not\_border'(Value, GdlState, GdlMoves) :-

'gdl\_distinct'(Value, 1),

'gdl\_distinct'(Value, 7).

'gdl\_adjacent'(X1, Y, X2, Y, GdlState, GdlMoves) :-

'gdl\_adjacent'(X1, X2, GdlState, GdlMoves).

'gdl\_adjacent'(X, Y1, X, Y2, GdlState, GdlMoves) :-

'gdl\_adjacent'(Y1, Y2, GdlState, GdlMoves).

'gdl\_adjacentD'(X1, Y1, X2, Y2, GdlState, GdlMoves) :-

'gdl\_adjacent'(X1, X2, GdlState, GdlMoves),

'gdl\_adjacent'(Y1, Y2, GdlState, GdlMoves).

'gdl\_adjacent'(A, B, GdlState, GdlMoves) :-

'gdl\_pls'(A, B).

'gdl\_adjacent'(A, B, GdlState, GdlMoves) :-

'gdl\_pls'(B, A).

'gdl\_sb'(M, N, GdlState, GdlMoves) :-

'gdl\_pls'(N, M).

'gdl\_pls'(0, 1).

'gdl\_pls'(1, 2).

'gdl\_pls'(2, 3).

'gdl\_pls'(3, 4).

'gdl\_pls'(4, 5).

'gdl\_pls'(5, 6).

'gdl\_pls'(6, 7).

'gdl\_pls'(7, 8).

'gdl\_pls'(8, 9).

'gdl\_pls'(9, 10).

'gdl\_pls'(10, 11).

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'gdl\_pls'(25, 26).

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'gdl\_pls'(43, 44).

'gdl\_pls'(44, 45).

'gdl\_pls'(45, 46).

'gdl\_pls'(46, 47).

'gdl\_pls'(47, 48).

'gdl\_pls'(48, 49).

'gdl\_pls'(49, 50).

'gdl\_pls'(50, 51).

'gdl\_pls'(51, 52).

'gdl\_show'(\*, 'gdl\_show'(blue, \*)).

'gdl\_show'(+, 'gdl\_show'(red, +)).

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

:- [ggp\_os].