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AI- Assignment – 1

8-Queens problem by Uniform Cost Search

Problem Statement:

The eight queens puzzle is the problem of placing eight chess queens on an 8 × 8 chessboard so that no two queens threaten each other; thus, a solution requires that no two queens share the same row, column, or diagonal.

Initial State:

No queens are on the board

States:

A state is any arrangement of 0 to 8 queens on the board. We can even have a state where any arrangement of 0-8 queens is done with no queen under attack.

Search Space:

chess board with 8 or fewer queens, each on a different square

Path cost:

1 per every move

Goal test:

 a state is the goal if it has exactly n queens and no queen is attacking any other queen

Uniform Cost search is basically Breadth first search if the path cost is same for every move.