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#include <iostream>
using namespace std;
#define MAX 10
void printSolution(int board[MAX][MAX], int N)
{static int count = 1;
    cout << "Solution " << count++ << ":\n";
    for (int i = 0; i < N; i++)
    {for (int j = 0; j < N; j++)
        {if (board[i][j])
            cout << "Q" << i+1;
            else
                cout << " _ ";}
        cout << endl;}
    cout << "\n";}
bool isSafe(int board[MAX][MAX], int row, int col, int N)
{for (int i = 0; i < col; i++)
    if (board[row][i])
        return false;
    for (int i = row, j = col; i >= 0 && j >= 0; i--, j--)
        if (board[i][j])
            return false;
    for (int i = row, j = col; i < N && j >= 0; i++, j--)
        if (board[i][j])
            return false;
    return true;}
void solveNQueens(int board[MAX][MAX], int col, int N, bool &found)
{if (col >= N)
    {found = true;
        printSolution(board, N);}
    for (int i = 0; i < N; i++)
    {if (isSafe(board, i, col, N))
        {board[i][col] = 1;
            solveNQueens(board, col + 1, N, found);
            board[i][col] = 0; }}}
int main()
{int N;
    cout << "Enter the number of queens (N): ";
    cin >> N;
    if (N > MAX)
        {cout << "Maximum supported board size is " << MAX << "\n";
            return 1;}
    int board[MAX][MAX] = {0};
    bool found = false;
    solveNQueens(board, 0, N, found);
    if (!found)
        cout << "No solutions exist for N = " << N << "\n";
    return 0;
}

```