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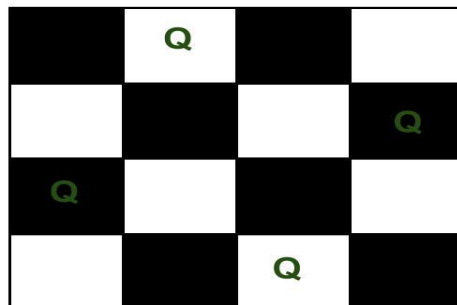
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LAB-4

Q1. N Queen Problem :

The N Queen is the problem of placing N chess queens on an N×N chessboard so that no two queens attack each other.

For example : solution for 4 Queen problem.



The expected output is a binary matrix which has 1s for the blocks where queens are placed. Following is the output matrix for above 4 queen solution.

{ 0, 1, 0, 0} { 0, 0, 0, 1} { 1, 0, 0, 0}
{ 0, 0, 1, 0}.

Q2. Suduko Problem :

The naive approach suduko problem is to generate all possible configurations of numbers from 1 to 9 to fill the empty cells. Try every configuration one by one until the correct configuration is found, i.e. for every unassigned position fill the position with a number from 1 to 9. After filling all the unassigned position check if the matrix is safe or not. If safe print else recurs for other cases.

Q3. Combination Sum :

Combination sum contains an array of positive integers **arr[]** and a sum **x**, to find all unique combinations in arr[] where the sum is equal to x. The same repeated number may be chosen from arr[] unlimited number of times.

The combinations themselves must be sorted in ascending order, i.e., the combination with smallest first element should be printed first. If there is no combination possible the print "Empty".