**Code for N-Queen:**

import java.util.\*;

class Queens {

public static List<List<String>> solveNQueens(int n){

char[][] board = new char[n][n];

for (int i = 0; i < n; i++)

for (int j = 0; j < n; j++)

board[i][j] = '.';

List < List < String >> res = new ArrayList < List < String >> ();

dfs(0, board, res);

return res;

}

static boolean validate(char[][] board, int row, int col) {

int duprow = row;

int dupcol = col;

while (row >= 0 && col >= 0) {

if (board[row][col] == 'Q') return false;

row--;

col--;

}

row = duprow;

col = dupcol;

while (col >= 0) {

if (board[row][col] == 'Q') return false;

col--;

}

row = duprow;

col = dupcol;

while (col >= 0 && row < board.length) {

if (board[row][col] == 'Q') return false;

col--;

row++;

}

return true;

}

static void dfs(int col, char[][] board, List < List < String >> res) {

if (col == board.length) {

res.add(construct(board));

return;

}

for (int row = 0; row < board.length; row++) {

if (validate(board, row, col)) {

board[row][col] = 'Q';

dfs(col + 1, board, res);

board[row][col] = '.';

}

}

}

static List < String > construct(char[][] board) {

List < String > res = new LinkedList < String > ();

for (int i = 0; i < board.length; i++) {

String s = new String(board[i]);

res.add(s);

}

return res;

}

public static void main(String args[]) {

Scanner sc = new Scanner(System.in);

System.out.println("Enter number of queens");

int n = sc.nextInt();

List < List < String >> queen = solveNQueens(n);

System.out.println();

int i = 1;

for (List < String > it: queen) {

System.out.println("Arrangement " + i);

for (String s: it) {

System.out.println(s);

}

System.out.println();

i += 1;

}

}

}