Design C/C++ programm for N Queen Problem using backtracking method

#include <stdio.h>

#include <stdlib.h>

#define MAX 50

int can\_place(int c[], int r) {

for (int i = 0; i < r; i++) {

if (c[i] == c[r] || abs(c[i] - c[r]) == abs(i - r))

return 0;

}

return 1;

}

void display(int c[], int n) {

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

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

if (c[i] == j)

printf("Q ");

else

printf("- ");

}

printf("\n");

}

printf("\n\n");

}

void n\_queens(int n) {

int r = 0;

int c[MAX];

c[0] = -1;

while (r >= 0) {

c[r]++;

while (c[r] < n && !can\_place(c, r))

c[r]++;

if (c[r] < n) {

if (r == n - 1) {

display(c, n);

} else {

r++;

c[r] = -1;

}

} else {

r--;

}

}

}

int main() {

int n;

printf("Enter the number of queens (max %d): ", MAX);

scanf("%d", &n);

if (n <= 0 || n > MAX) {

printf("Invalid input. Please enter a value between 1 and %d.\n", MAX);

return 1;

}

n\_queens(n);

return 0;

}