

```

#include <bits/stdc++.h>
using namespace std;

class NQP {
private:
    int n;
    vector<int> x;

public:
    NQP() {
        cout << "Enter length or width of chessboard\n";
        cin >> n;
        x.resize(n);
    }

    bool place(int k, int i) {
        for (int j = 0; j < k; j++) {
            if (x[j] == i || abs(x[j] - i) == abs(j - k)) {
                return false;
            }
        }
        return true;
    }

    void NQueen(int k) {
        for (int i = 0; i < n; i++) {
            if (place(k, i)) {
                x[k] = i; // Place the queen
                if (k == (n - 1)) {
                    printArr(); // Print when all queens are placed
                } else {
                    NQueen(k + 1); // Try to place queens in the next row
                }
            }
        }
    }

    void printArr() {
        // Print the board in a clearer format
        for (int i = 0; i < n; i++) {
            for (int j = 0; j < n; j++) {
                if (x[i] == j) {
                    cout << "♛ "; // Mark the queen's position
                } else {
                    cout << "_ "; // Empty spot
                }
            }
            cout << endl;
        }
        cout << endl;
        for (int i = 0; i < n; i++) {
            cout << "Row " << i + 1 << " & Column " << (x[i] + 1) << endl;
        }
        cout << endl;
    }
};

int main() {
    NQP queen;
    queen.NQueen(0); // Start placing queens from row 0
    return 0;
}

/*
Enter length or width of chessboard
4

```

```
  _  ♔  _  _  
_  _  _  ♔  
♔  _  _  _  
_  _  ♔  _  
_  _  _  _
```

Row 1 & Column 2
Row 2 & Column 4
Row 3 & Column 1
Row 4 & Column 3

```
  _  _  ♔  _  
♔  _  _  _  
_  _  _  ♔  
_  ♔  _  _  
_  _  _  _
```

Row 1 & Column 3
Row 2 & Column 1
Row 3 & Column 4
Row 4 & Column 2

*/