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

bool isSafe(int **arr, int x, int y, int n){
   for(int row=0;row<x;row++){
      if(arr[row][y]==1){
         return false;
      }
   }

   int row =x;
   int col =y;
   while(row>=0 && col>=0){
      if(arr[row][col]==1){
         return false;
      }
      row--;
      col--;
   }

   row =x;
   col =y;
   while(row>=0 && col<n){
      if(arr[row][col]==1){
         return false;
      }
      row--;
      col++;
   }

   return true;
}


void printBoard(int **arr, int n){
       for(int i=0;i<n;i++){
    for(int j=0;j<n;j++){
                      if(arr[i][j] == 1) cout << "[Q]";
                      else cout << "[]";
              }
    cout << endl;
       }
       cout << endl;
       cout << endl;
}



void nQueen(int** arr, int x, int n){
  if(x == n){
    printBoard(arr, n);
              return;
  }

  for(int col=0;col<n;col++){
    if(isSafe(arr,x,col,n)){
      arr[x][col]=1;
      nQueen(arr,x+1,n);
      arr[x][col]=0;
    }
  }
}
```

```
int main(){
    int n;
    cin >> n;

    int **arr = new int*[n];
    for(int i=0;i<n;i++){
        arr[i] = new int[n];
        for(int j=0;j<n;j++){
            arr[i][j]=0;
        }
    }

              nQueen(arr, 0, n);

              cout << "--------All possible solutions--------";

    return 0;
}

/*
Time Complexity: O(N!)
Auxiliary Space: O(N^2)
*/
```