

### **Nqueens (CPP)**

```
#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;
```

```
}
```

```
bool nQueen(int** arr, int x, int n){
```

```
    if(x>=n){  
        return true;  
    }
```

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

```

        return true;
    }
    arr[x][col]=0;
}
}
return false;
}

```

```

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;
        }
    }

    if(nQueen(arr,0,n)){
        for(int i=0;i<n;i++){
            for(int j=0;j<n;j++){
                cout << arr[i][j] << " ";
            }
            cout << endl;
        }
    }
    return 0;
}

```