

# Program 11

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#include<stdio.h>
#include<stdlib.h>
int x[20];
// k->row i->column
int place(int k, int i){
    int j;
    for(j=1; j<=k-1; j++){
        if( (x[j]==i) || (abs(x[j]-i)==abs(j-k)) )
            return 0;
    }
    return 1;
}
void printQueen(int n){
    int i, j;
    static int count=1;
    printf("\n\nSolution %d is- \n\n", count++);
    for(i=1;i<=n;++i)
        printf("\t%d",i);
    for(i=1;i<=n;++i)
    {
        printf("\n\n%d",i);
        for(j=1;j<=n;++j) //for nxn board
        {
            if(x[i]==j)
                printf("\tQ"); //queen at i,j position
            else
                printf("\t-"); //empty slot
        }
    }
}
void NQueen(int k, int n){
    int i;
    for(i=1;i<=n;i++){
        if(place(k,i)){
            x[k]=i;
            if(k==n){
                printQueen(n);
            }
            else
                NQueen(k+1, n);
        }
    }
}
```

```
NQueen(k+1, n);
}
}
}
int main(){
    int n;
    printf("\nN-QUEEN PROBLEM\n");
    printf("\nEnter the number of queens to be placed - ");
    scanf("%d",&n);
    if(n==2 || n==3 || n==0)
        printf("\nNo solutions possible!!");
    else
        NQueen(1,n);
    return(0);
}
```