

Code:

```
#include<stdio.h>
```

```
#include<conio.h>
```

```
#include<math.h>
```

```
int canplace(int r,int c[50])
```

```
{
    int i;
    for(i=0;i<r;i++)
    {
        if(c[i]==c[r] || (c[i]-c[r])== (i-r))
            return 0;
    }
    return 1;
}
```

```
void display(int c[50],int n)
```

```
{
    int i,j;
    char cb[10][10];
    for(i=0;i<n;i++)
        for(j=0;j<n;j++)
            cb[i][j]='-';
    for(i=0;i<n;i++)
        cb[i][c[i]]='q';
    printf("-----\n");
    for(i=0;i<n;i++)
    {
        for(j=0;j<n;j++)
```

```

    {
        printf("%c\t ",cb[i][j]);
    }
    printf("\n");
}
}

```

```

void nqueen(int n)
{
    int r,c[50];
    c[0]=-1;
    r=0;
    while(r>=0)
    {
        c[r]++;
        while(c[r]<n && !canplace(r,c))
            c[r]++;
        if(c[r]<n)
        {
            if(r==n-1)
            {
                display(c,n);
                printf("\n");
            }
            else
            {
                r++;
                c[r]=-1;
            }
        }
    }
}

```

```

    }
    else
        r--;
    }
}

void main()
{
    int n;

    printf("enter the number of queens\n");
    scanf("%d",&n);
    nqueen(n);
    getch();
}

```

output

```

enter the number of queens
4
-----
-      q      -      -
-      -      -      q
q      -      -      -
-      -      q      -
-----
-      q      -      -
-      -      -      q
q      -      q      -
-      -      -      -
-----
-      -      q      -
q      -      -      -
-      q      -      q
-      -      -      -
-----
-      -      q      -
-      -      -      q
q      -      -      -
-      q      q      -
-      -      -      -
-----
-      -      -      q
-      q      -      -
q      -      -      -

```

```
q      -      -      -  
-      -      q      -  
-----  
-      -      -      q  
-      -      q      -  
-      q      -      -  
q      -      -      -  
  
...Program finished with exit code 0  
Press ENTER to exit console.
```