

```
1-A(28.2.24).py - C:\231501167\1-A(28.2.24).py (3.12.2)
File Edit Format Run Options Window Help

def issafe(mat,r,c):
    for i in range(r):
        if mat[i][c]=='Q':
            return False
    (i,j)=(r,c)
    while i>=0 and j>=0:
        if mat[i][j]=='Q':
            return False
        i-=1
        j-=1
    (i,j)=(r,c)
    while i>=0 and j<len(mat):
        if mat[i][j]=='Q':
            return False
        i-=1
        j+=1
    return True

def printsolution(mat):
    for r in mat:
        print(str(r).replace(',','').replace("\n",""))
    print()

def nqueens(mat,r):
    if r==len(mat):
        printsolution(mat)
        exit(0)
```

```
1-A(28.2.24).py - C:\231501167\1-A(28.2.24).py (3.12.2)*
File Edit Format Run Options Window Help

    while i>=0 and j<len(mat):
        if mat[i][j]=='Q':
            return False
        i-=1
        j+=1
    return True

def printsolution(mat):
    for r in mat:
        print(str(r).replace(',','').replace("\n",""))
    print()

def nqueens(mat,r):
    if r==len(mat):
        printsolution(mat)
        exit(0)
    for i in range(len(mat)):
        if issafe(mat,r,i):
            mat[r][i]='Q'
            nqueens(mat,r+1)
            mat[r][i]='-'

if __name__ == '__main__':
    N=int(input('enter no of queens you want:'))
    mat=[['-'] for x in range(N)] for y in range(N)]
    nqueens(mat,0)
```

```
IDLE Shell 3.12.2
File Edit Shell Debug Options Window Help
Python 3.12.2 (tags/v3.12.2:6abddd9, Feb 6 2024, 21:26:36) [MSC v.1937 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:\231501167\1-A(28.2.24).py
enter no of queens you want:8
[Q - - - - -]
[- - - - Q - -]
[- - - - - Q]
[- - - - - Q -]
[- - - - - Q -]
[- - - - - Q -]
[- - - - - Q -]
[- - - - - Q -]
>>>
```