Approach:

1. Save top-left to a temp variable
2. Now perform rotation of the 4 corners of the grid:
   1. Move bottom-left to top-left
   2. Move bottom-right to bottom-left
   3. Move top-right to bottom-right
   4. Move temp into top-right

**1** 2 **3**

4 5 6

**7** 8 **9**

Becomes:

7 **2** 1

**4** 5 **6**

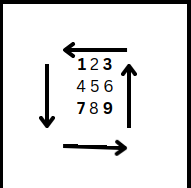
9 **8** 3

Now, repeat

1. Move bottom-(left+offset) to (top+offset)-right
2. Move (bottom-offset)-right to bottom-(left+offset)
3. Move top-(right-offset) to (bottom-offset)-right
4. Finally move temp to top-(right-offset)

Repeat this until left<=right, that is all sub-matrices

Hack:



Code:

l,t = 0,0

r,b = len(mat[0])-1, len(mat)-1

while l<=r:

for offset in range(r-l):

# copy top-left to a temp variable

temp = mat[t + offset][l]

# copy bottom left(move from left to right) to top left

mat[t + offset][l] = mat[b][l+offset]

# copy bottom-right to bottom-left

mat[b][l+offset] = mat[b-offset][r]

# copy top-right to bottom-right

mat[b-offset][r] = mat[t][r-offset]

# copy temp into top-right

mat[t][r-offset] = temp

l+=1

r-=1

b-=1

t+=1