day 67

Matrix archieves

A matrix represent a collection of numbers arranged in an order of columns and rows.

it is nessary to enclose the elements of a matrix in paranthsis or bracts.

Rotate matrix elements

The ieda is to uge loops similar too the programme. one by one rotate all rings of elements, starting from the outermost.

move elements of top row
move elements of last column
move elements of bottom row
move elements of first column

Repeat above stebs for inner ring while there is an inner ring

Program:

```
def rotate matrix(mat):
    if not len(mat):
        return
    top = 0
    bottom = len(mat) - 1
    left = 0
    right = len(mat[0] - 1)
    while left < right and top < bottom:
        prev = mat[top + 1][left]
        for i1 in range (left, right+1):
            curr = mat[top][i]
            mat[top][i] = prev
            prev = curr
    top += 1
    for i in range (top, bottom +1):
        curr = mat[i][right]
        mat[i][right] = prev
        prev = curr
    right -= 1
```

```
        for i in range(right, left-1, -1):
            curr = mat[bottom][i]
            mat[bottom][i] = prev
            prev = current
        bottom -= 1
        for i in range(bottom, top-1, -1):
            curr = mat[i][left]
            mat[i][left] = prev
            prev = curr
        left += 1
    return mat
```