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here give a common method to solve the image rotation problems.

/\*

\* clockwise rotate

\* first reverse up to down, then swap the symmetry

\* 1 2 3 7 8 9 7 4 1

\* 4 5 6 => 4 5 6 => 8 5 2

\* 7 8 9 1 2 3 9 6 3

\*/

/\* Clockwise Rotate \*/

public void rotate(int[][] matrix) {

if(matrix == null || matrix.length == 0 || matrix[0].length == 0) return;

int rows = matrix.length;

int cols = matrix[0].length;

for(int first=0, last=rows-1; first<last; first++,last--) {

int[] tmp = matrix[first];

matrix[first] = matrix[last];

matrix[last] = tmp;

}

for(int i = 0; i < rows; i++){

for(int j = i+1; j < cols; j++){

int tmp = matrix[i][j];

matrix[i][j] = matrix[j][i];

matrix[j][i] = tmp;

}

}

}

/\*

\* anticlockwise rotate

\* first reverse left to right, then swap the symmetry

\* 1 2 3 3 2 1 3 6 9

\* 4 5 6 => 6 5 4 => 2 5 8

\* 7 8 9 9 8 7 1 4 7

\*/

/\* Counter-clockwise Rotate \*/

public void antiRotate(int[][] matrix) {

if(matrix == null || matrix.length == 0 || matrix[0].length == 0) return;

int rows = matrix.length;

int cols = matrix[0].length;

for(int first=0, last=cols-1; first<last; first++,last--) {

for(int i=0; i<matrix.length; i++) {

int tmp = matrix[i][first];

matrix[i][first] = matrix[i][last];

matrix[i][last] = tmp;

}

}

for(int i = 0; i < rows; i++){

for(int j = i+1; j < cols; j++){

int tmp = matrix[i][j];

matrix[i][j] = matrix[j][i];

matrix[j][i] = tmp;

}

}

}