**Transpose of matrix in place**



**in transpose the main diagonal remains same (1 5 9 )**

**only the elements over and below the diagonal get swapped**

**2 <=> 4 0,1 <=> 1,0**

**3 <=> 7 0,2 <=> 2,0**

**6 <=> 8 1,2 <=> 2,1**

**i j**

**it's clear that if swap the elemnts over diagonal triangle is ed then the matrix will be transposed**

**in loop**

**1st iteration**

**i) i=0 j=i+1 = 0+1 =1**

**m[0][1] = m[1][0]**

**ii) i=0 j=i+2 = 0+2 =2**

**m[0][2] = m[2][0]**

**2nd iter**

**i) i=1 j=i+1 =1+1 =2**

**m[1][2] = m[2][1]**

**......**

**int r = matrix.length;**

**for(int i=0;i<r;i++){**

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

**int temp = matrix[i][j];**

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

**matrix[j][i] = temp;**

**}**

**}**