```java

/**
 * 1D transfer to 2D
 */
public class Summary1Dto2D
{
    public static void For1Dto2D(int[] a1,int[][] a2){
        //loop 2D
        int j=0;
        for(int r=0;r<a2.length;r++){
            for(int c=0;c<a2[0].length;c++){
                if(j<a1.length){
                    a1[j]=a2[r][c];
                    j++;
                }
            }
        }
        //loop 1D in row order
        for(int i=0;i<a1.length&&i<a2.length*a2[0].length;i++){
            a2[i/a2[0].length][i%a2[0].length]=a1[i];
        }
        //loop 1D in colum order with restarting when 2D is full
        for(int i=0;i<a1.length;i++){
            a2[i%a2.length][i/a2.length%a2[0].length]=a1[i];
        }
        //loop 1D control r,c int row order with restarting when 2D is full
        int r=0;
        int c=0;
        for(int i=0;i<a1.length;i++){
            a2[r][c]=a1[i];
            c++;
            if(c==a2[0].length){
                c=0;
                r=(r+1)%a2.length;
            }
        }
         //loop 1D control r,c int col order without restart
        for(int i=0;i<a1.length&&i<a2.length*a2[0].length;i++){
            a2[r][c]=a1[i];
            r++;
            if(r==a2.length){
                r=0;
                c++;
            }
        }
    }
}

```