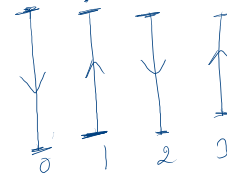


	0	1	2	3
0	a	b	c	d
1	e	f	g	h
2	i	j	k	l
3	m	n	o	p



$$\begin{pmatrix} 0 & 0 \\ 1 & 0 \\ 2 & 0 \\ 3 & 0 \end{pmatrix} \quad \begin{pmatrix} 3 & 1 \\ 2 & 1 \\ 1 & 1 \\ 0 & 1 \end{pmatrix} \quad \begin{pmatrix} 0 & 1 \\ 1 & 2 \\ 2 & 2 \\ 3 & 2 \end{pmatrix} \quad \begin{pmatrix} 3 & 3 \\ 2 & 3 \\ 1 & 3 \\ 0 & 3 \end{pmatrix}$$

```
for (int c = 0; c < m; c++) {
    if (c % 2 == 0) {
        for (int r = 0; r < n; r++) {
            System.out.print(arr[r][c] + " ");
        }
    } else {
        for (int r = n - 1; r >= 0; r--) {
            System.out.print(arr[r][c] + " ");
        }
    }
}
```

row \rightarrow even (col: $0 \rightarrow m-1$)
 row \rightarrow odd (col: $m \rightarrow 0$)

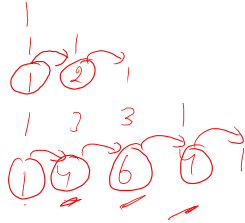
column \rightarrow even
 column \rightarrow odd

(row: $0 \rightarrow h-1$)
 (row: $h-1 \rightarrow 0$)

(abcd hgtc ijkl ponn)

1
!
1
2
!
3
!
4
!

$0c_0$
 $1c_0 \quad 1c_1$
 $2c_0 \quad 2c_1 \quad 2c_2$
 $3c_0 \quad 3c_1 \quad 3c_2 \quad 3c_3$
 $4c_0 \quad 4c_1 \quad 4c_2 \quad 4c_3 \quad 4c_4$



val = 1 2 3 4 5 6 7 8
 $8H = 2$
 $r = 1$
val

$$nc_r = \frac{h!}{(h-r)!r!}$$

$$nc_{8H} = \frac{h!}{(h-8H)!(8H)!}$$

$$nc_{8H} = \frac{h! \times (h-r)!r!}{(h-r)!(r)!h!}$$

$$nc_{8H} = \frac{(h-r)!r!}{(r)!}$$

$$1c_2 = \frac{(4-1)!}{(1)!} = \frac{3 \times 2}{2} = 6$$