GKSTR17 Pattern_2

$n = 5$

	0	1	2	3	4
0	*				
1	*	*			
2	*	*	*		
3	*	*	*	*	
4	*	*	*	*	*

	0	1	2	3	4
0	1				
1	1	2			
2	1	2	3		
3	1	2	3	4	
4	1	2	3	4	5

vals ↓ j ↓

1 in 0th col
2 in 1st col
3 in 2nd col
4 in 3rd col
5 in 4th col

```
int st = 1;
for(int i=0; i<n; i++){
    for(int j=0; j<st; j++){
        Syso("*");
    }
    st++;
    Sysoln();
}
```

```
int st = 1;
for(int i=0; i<n; i++){
    for(int j=0; j<st; j++){
        Syso((j+1)+" ");
    }
    st++;
    Sysoln();
}
```

Code

```java
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int n = scn.nextInt();

    int st = 1;
    for (int i = 0; i < n; i++) {
        for (int j = 0; j < st; j++) {
            System.out.print((j + 1) + " ");
        }
        st++;
        System.out.println();
    }
}
```

output

```
1 _
1 _ 2 _
1 _ 2 _ 3 _
1 _ 2 _ 3 _ 4 _
```

i=4, (4<4)x

n = 4

st = ~~1~~ ~~2~~ ~~3~~ ~~4~~ 5

i=0, j=0 (0<1) ✓
j=1 (1<1) x

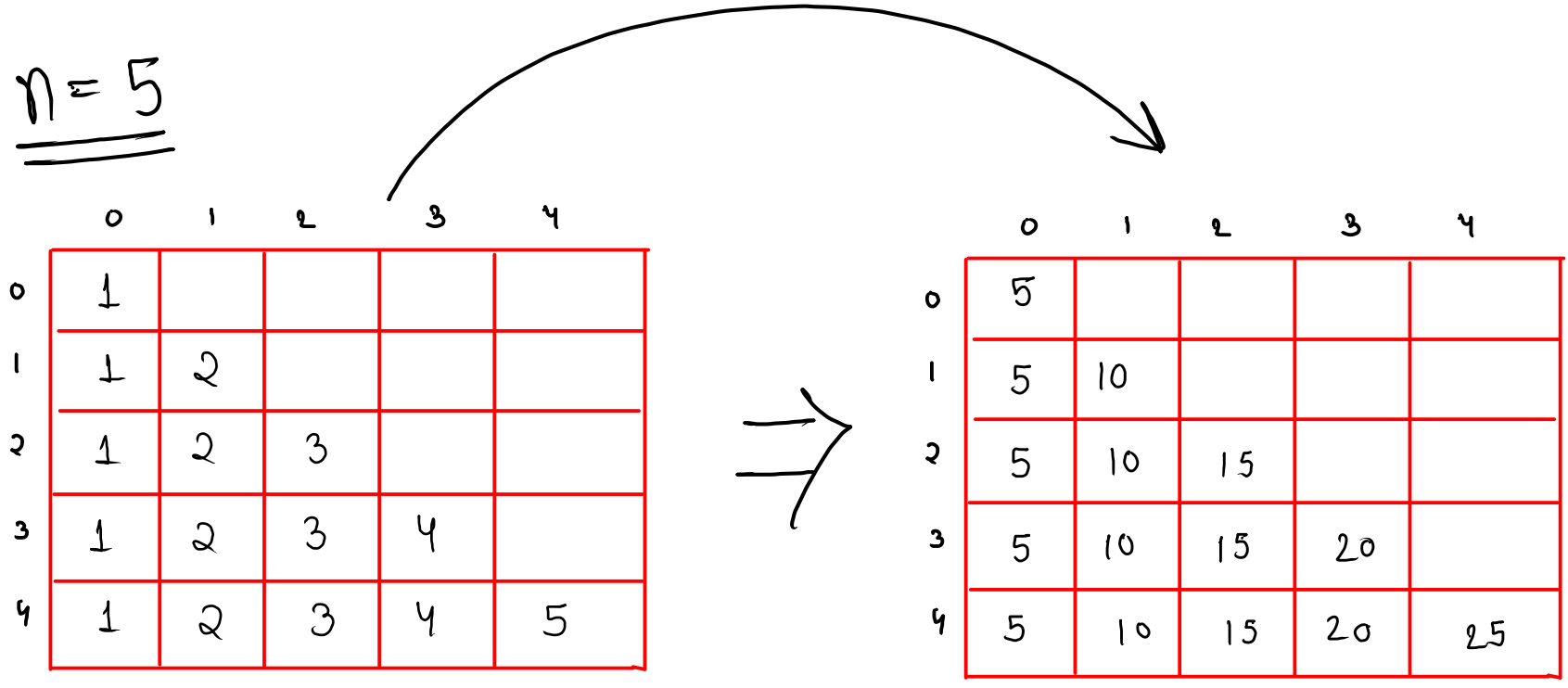
i=1, j=0 (0<2) ✓
j=1 (1<2) ✓
j=2 (2<2) x

i=2, j=0 (0<3) ✓
j=1 (1<3) ✓
j=2 (2<3) ✓
j=3 (3<3) x

i=3, j=0 (0<4) ✓
j=1 (1<4) ✓
j=2 (2<4) ✓
j=3 (3<4) ✓
j=4 (4<4) x

Pattern 6 - Right triangle of 5 multiples

$n = 5$



Code

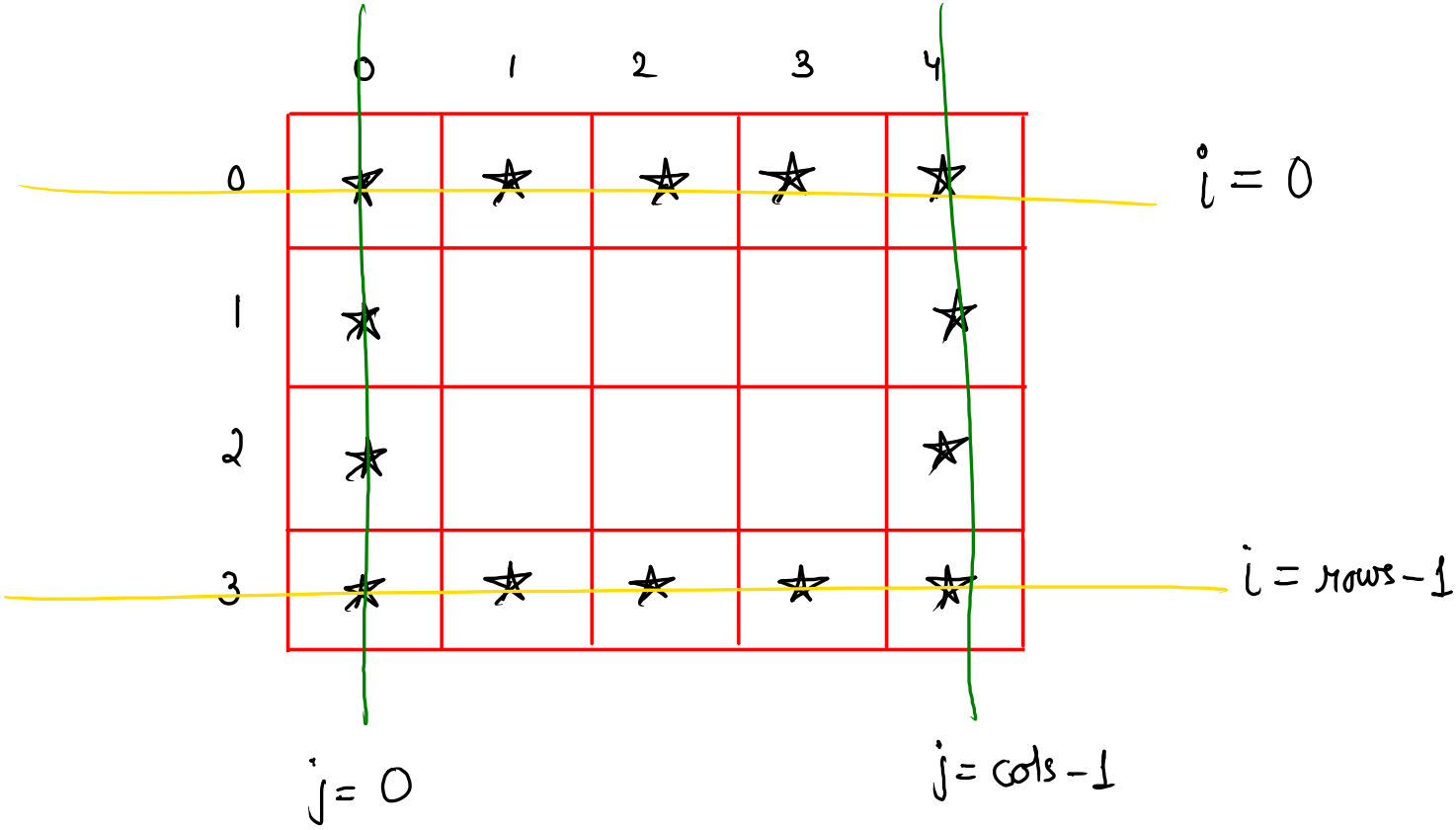
```java
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int n = scn.nextInt();

    int st = 1;
    for (int i = 0; i < n; i++) {
        for (int j = 0; j < st; j++) {
            System.out.print(5 * (j + 1) + "\t");
        }
        st++;
        System.out.println();
    }
}
```

Pattern 7 - Print a hollow m by n star rectangle.

cols = 5 // no. of cols

rows = 4 // no. of rows



code

```java
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int cols = scn.nextInt();
    int rows = scn.nextInt();

    for (int i = 0; i < rows; i++) {
        for (int j = 0; j < cols; j++) {
            if ( i == 0 || i == rows - 1 || j == 0 || j == cols - 1 ) {
                System.out.print("*");
            } else {
                System.out.print(" ");
            }
        }
        System.out.println();
    }
}
```

Code

```java
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int cols = scn.nextInt();
    int rows = scn.nextInt();

    for (int i = 0; i < rows; i++) {
        for (int j = 0; j < cols; j++) {
            if ( i == 0 || i == rows - 1 || j == 0 || j == cols - 1 ) {
                System.out.print("*");
            } else {
                System.out.print(" ");
            }
        }
        System.out.println();
    }
}
```

I → i == 0

II → i = rows - 1

III → j = 0

IV → j = cols - 1

→ none

rows = 4
cols = 4

cols = 4
rows = 4

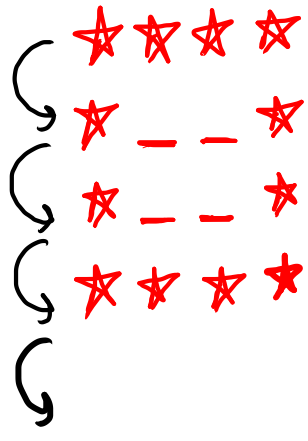
i = 0, j = 0
j = 1
j = 2
j = 3
j = 4 ×

i = 1, j = 0
j = 1
j = 2
j = 3
j = 4 ×

i = 2, j = 0
j = 1
j = 2
j = 3

i = 3, j = 0
j = 1
j = 2
j = 3

op



Conditions:-

$i = 0$:- first row

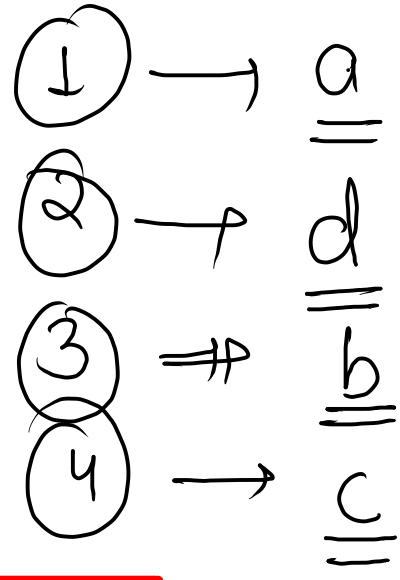
$i = rows - 1$:- last row

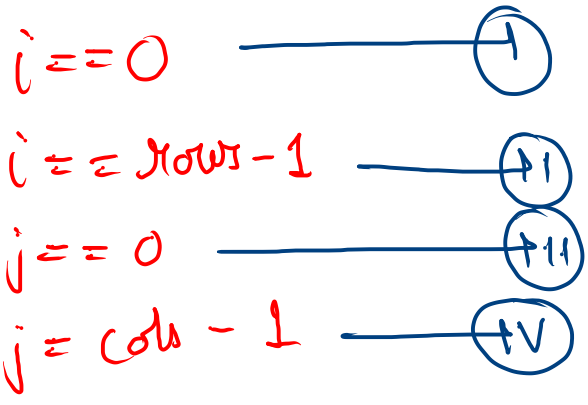
$j = 0$:- first col

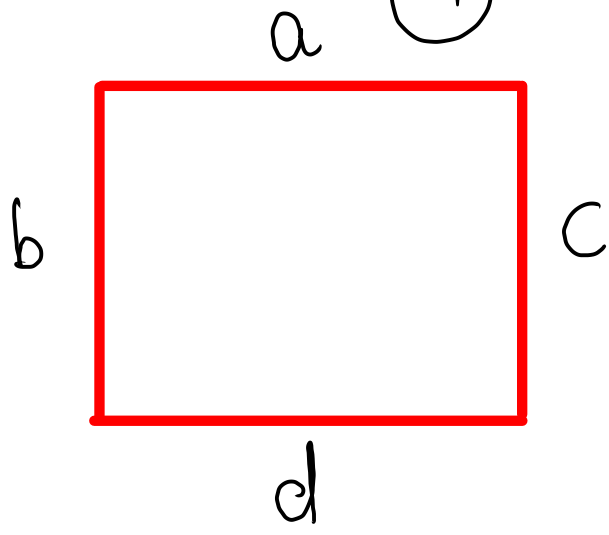
$j = cols - 1$:- last col

```java
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int cols = scn.nextInt();
    int rows = scn.nextInt();

    for (int i = 0; i < rows; i++) {
        for (int j = 0; j < cols; j++) {
            if ( i == rows - 1 || || j == cols - 1 ) {
                System.out.print("*");
            } else {
                System.out.print(" ");
            }
        }
        System.out.println();
    }
}
```







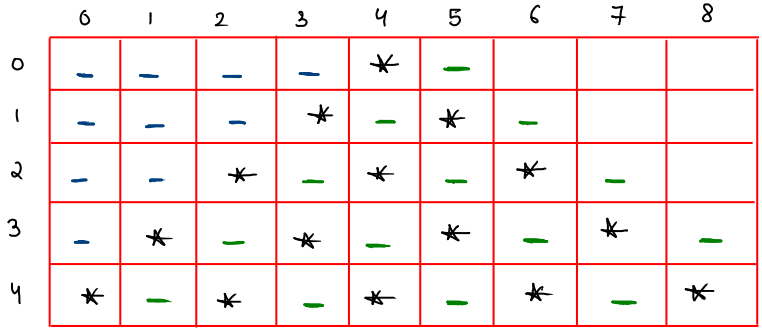
Pattern 8 - Print a hollow square without top

```
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int n = scn.nextInt();

    for (int i = 0; i < n; i++) {
        for (int j = 0; j < n; j++) {
            if ( i == n - 1 || j == 0 || j == n - 1 ) {
                System.out.print("*");
            } else {
                System.out.print(" ");
            }
        }
        System.out.println();
    }
}
```

GKSTR24 Pattern_7_Pyramid

n = 5




```
int st = 1;
int sp = n-1;
for(int i=0; i<n; i++){
    for(int j=0; j<sp; j++){
        Syso(" ");
    }
    for(int j=0; j<st; j++){
        Syso("*_");
    }
    sp--;
    st++;
    Sysoln();
}
```

```java
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int n = scn.nextInt();

    int st = 1;
    int sp = n - 1;
    for (int i = 0; i < n; i++) {
        for (int j = 0; j < sp; j++) {
            System.out.print(" ");
        }
        for (int j = 0; j < st; j++) {
            System.out.print("* ");
        }
        sp--;
        st++;
        System.out.println();
    }
}
```

Hw_Print Inverted triangle

$n = 7$

	0	1	2	3	4	5	6
0	*	*	*	*	*	*	*
1	_	*	*	*	*	*	
2	_	_	*	*	*		
3	_	_	_	*			

```
int st = n;
int sp = 0;
for(int i=0; i<rows; i++){
    for(int j=0; j<sp; j++){
        Syso(" ");
    }
    for(int j=0; j<st; j++){
        Syso("*");
    }
    st -= 2;
    sp ++;
    Syso(x);
}
```