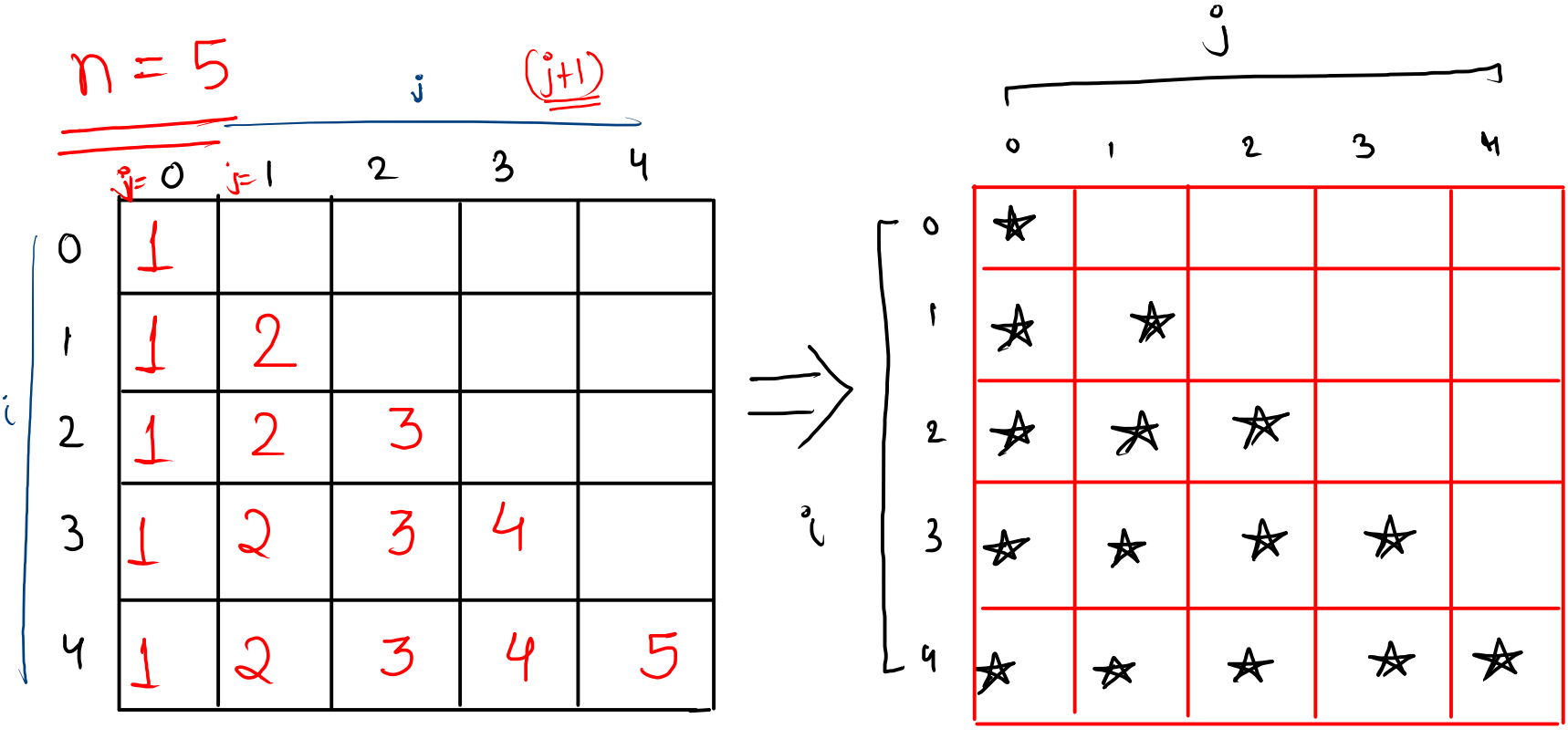
GKSTR17 Pattern_2



code

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

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

(أو)

(0,0)
(1,0)
(1,1)
(2,0)
(2,1)
(2,2)
(3,0)
(3,1)
(3,2)
(3,3)
(4,0)
(4,1)
(4,2)
(4,3)
(4,4)

Pattern 6 - Right triangle of 5 multiples

n=6

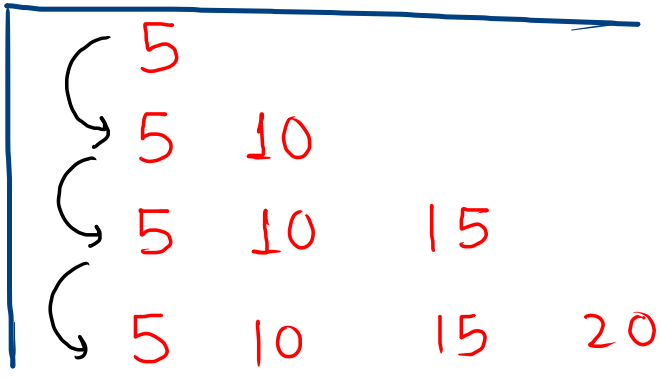
	0	1	2	3	4	5
0	5					
1	5	10				
2	5	10	15			
3	5	10	15	20		
4	5	10	15	20	25	
5	5	10	15	20	25	30

(j+1) * 5

Code

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

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



row = 4

st = ~~1 2 3~~ 4

i=0, j=0 (0<1) ✓
j=1 (1<1) ×

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

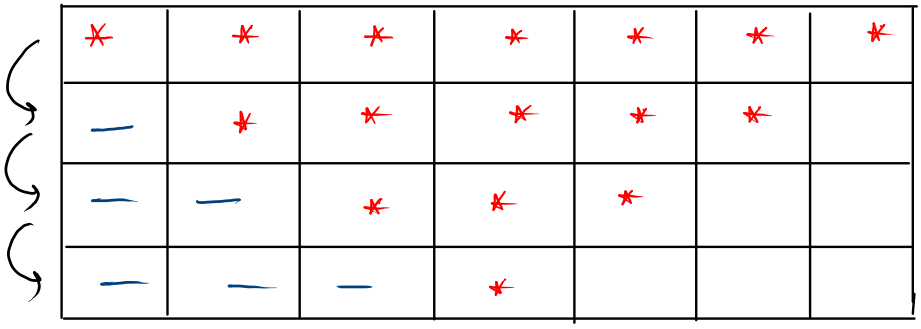
i=2, j=0 (0<3) ✓
j=1 (1<3) ✓
j=2 (2<3) ✓
j=3 ×

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

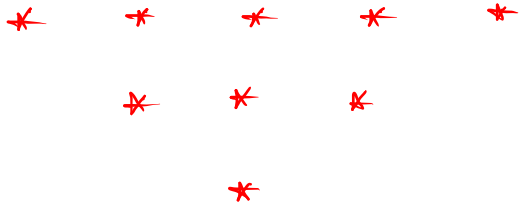
i=4 ×

Hw_Print Inverted triangle

n = 7



n = 5



rows

n = 9 → 10 → 5

n = 7 → 8 → 4

n = 5 → 6 → 3

n = 3 → 4 → 2

n = 1 → 2 → 1

$$row = \frac{(n+1)}{2}$$

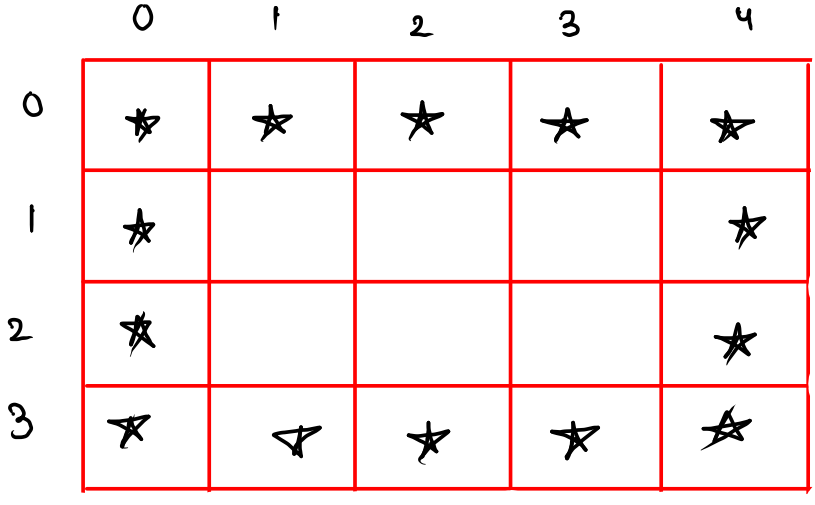
code

```
int st = n ;
int sp = 0 ;
int row = (n+1)/2;
for( int i=0; i< row; i++){
      for(int j=0; j<sp ; j++){
          Syso(" ");
       }
      for(int j=0; j<st ; j++){
          Syso("* ");
       }
      st -=2;
      sp++;
      Sysoln();
}
```

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

m * n

col = 5
row = 4



gmp boundary cond^n

first row (i) = 0

last row (i) = row - 1

first col (j) = 0

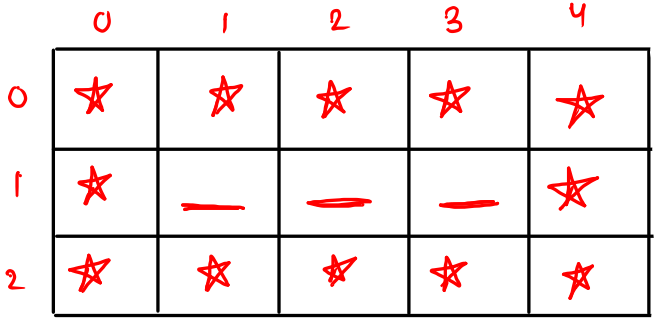
last col (j) = col - 1

Code

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

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

row = 3 , col = 5



(i, j)

(0,0)
(0,1)
(0,2)
(0,3)
(0,4)
(1,0)
(1,1)
(1,2)
(1,3)
(1,4)
(2,0)
(2,1)
(2,2)
(2,3)
(2,4)

Practice

first row (i) = 0

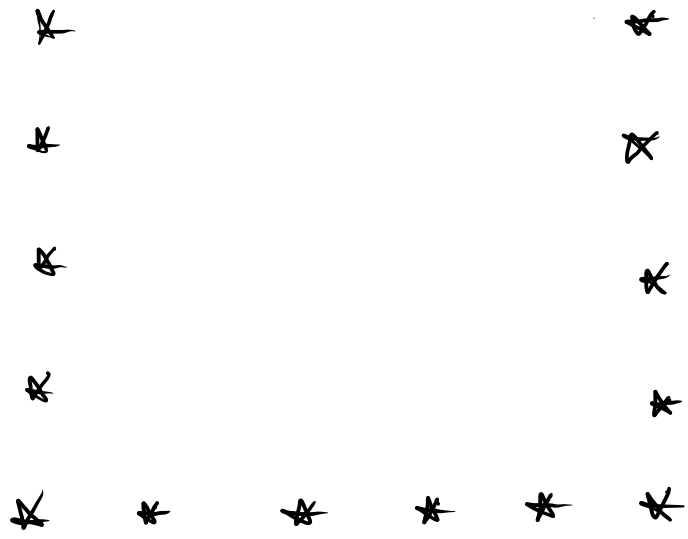
last row (i) = row - 1

first col (j) = 0

last col (j) = col - 1

row * col

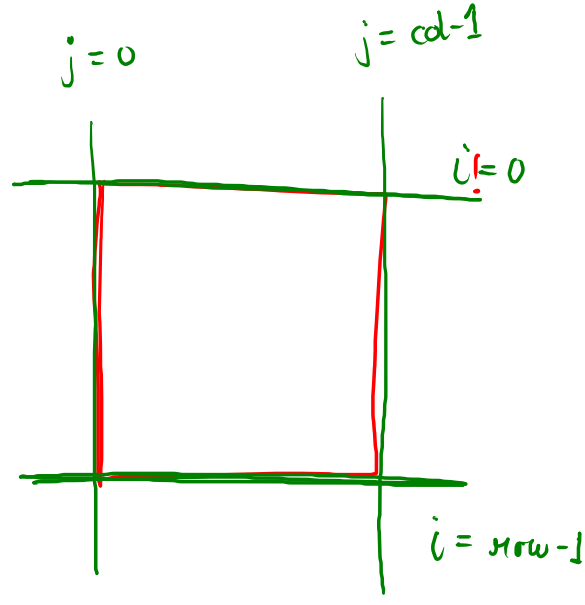
5 * 6



Pattern 8 - Print a hollow square without top

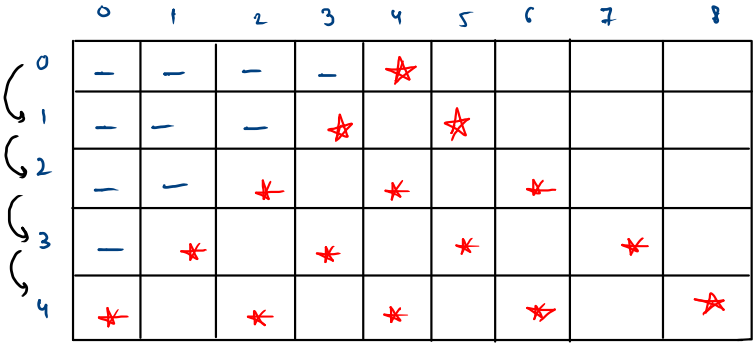
```
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int n = scn.nextInt();

    for (int i = 0; i < n; i++) {
        for (int j = 0; j < n; j++) {
            if ( j == 0 || i == n - 1 || 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();
}
```

Code

```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();
    }
}
```