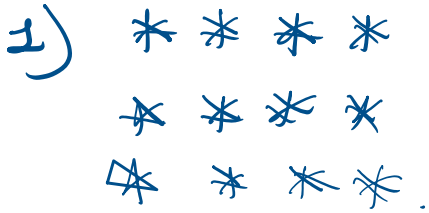
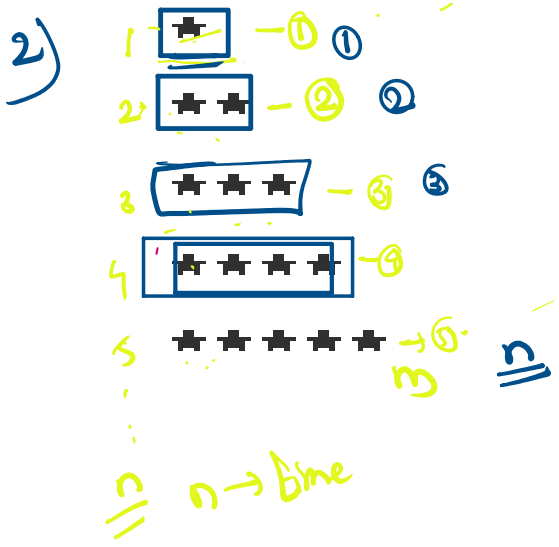
1. DSA
   a. Arrays
   b. String
   c. Recursion + Backtracking
   d. Oops (collection framework)
   e. Linked List
   f. Stack & Queue
   g. Trees
   h. DP & Graphs

1)



2)



1) observation

2) Break small problem

3) Find the Releavant Solution

```java
public class RightTraingleStart {
    public static void main(String[] args) {
        int n = 5;
        for(int rep = 0; rep < n; rep++){
            for(int star = 0; star <= rep; star++){
                System.out.printf(" * ");    //  -> printing the start

            }
            System.out.println();
        }
    }
}
```

1
12
123
1234
12345

→ observation

→ Each row 1 to n number print

→ Repeating same task till m

→ 1 to n num print

```java
public class RightTraingleNum {
    Run | Debug
    public static void main(String[] args) {
        int n = 5;
        for(int rep = 1; rep <= n; rep++){
            for(int num = rep; num >= 1; num--){
                System.out.print(num);    //  -> printing the start

            }
            System.out.println();
        }

    }
}
```

1 — 1
22 → 2
333 → 3
4444 → 4
55555 → 5

Observat° & Break it into Smaller problem

→ We have to print number →

RightAnglTraingleRowWise.java

```java
public class RightAnglTraingleRowWise {
    Run | Debug
    public static void main(String[] args) {
        int n = 5;
        for(int rep = 1; rep <= n; rep++){
            for(int num = 1; num <= rep; num++){
                System.out.print(rep);
            }
            System.out.println();
        }
    }
}
```

1
2 3
4 5 6
7 8 9
10 11 12 13

⟹ Homework

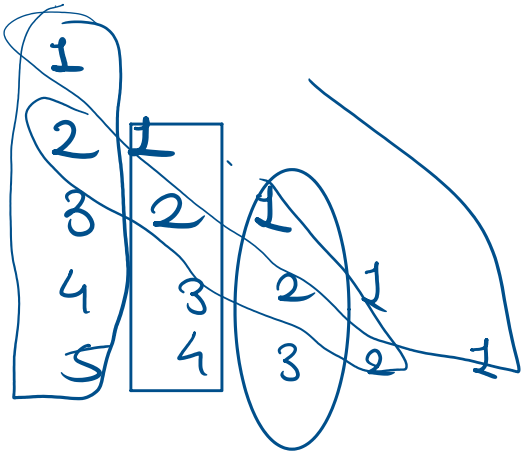
★★★★★ = 1
★★★★ = 2
★★★ = 3
★★ = 4
★ = 5

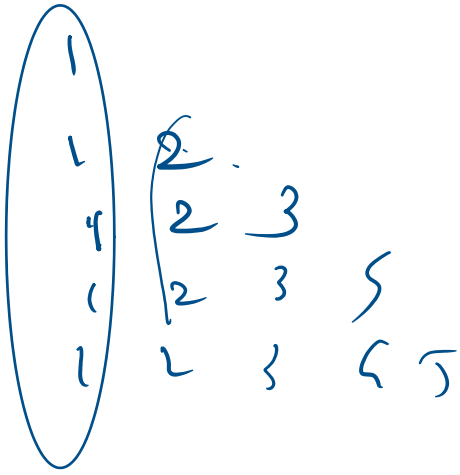
Observation
→ each * print
→ Repeated in Rev order

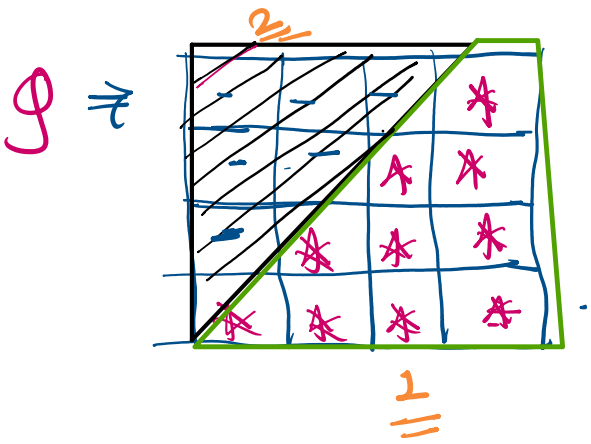
n=5

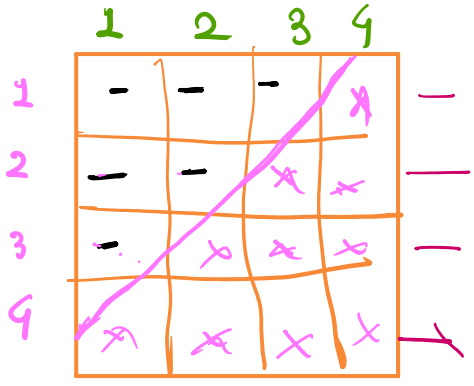
ReverseRighAngledTraingle.java

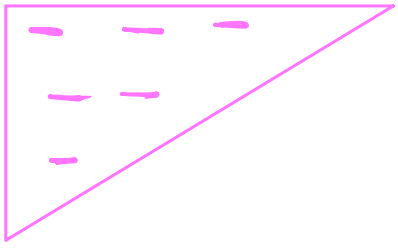
```java
public class ReverseRighAngledTraingle {
    public static void main(String[] args) {
        int n = 5;
        for(int rep = n; rep >= 1; rep--){
            for(int star = 1; star <= rep; star++){   // n - rep + 1;
                System.out.print(s:" * ");
            }
            System.out.println();
        }

    }
}

```

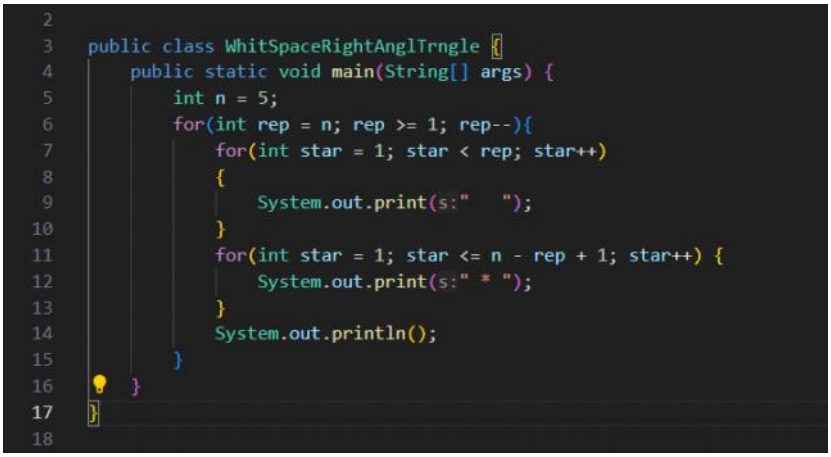












```
2
3   public class WhitSpaceRightAnglTrngle {
4       public static void main(String[] args) {
5           int n = 5;
6           for(int rep = n; rep >= 1; rep--){
7               for(int star = 1; star < rep; star++)
8               {
9                   System.out.print(s:"   ");
10              }
11              for(int star = 1; star <= n - rep + 1; star++) {
12                  System.out.print(s:" * ");
13              }
14              System.out.println();
15          }
16      }
17  }
18
```