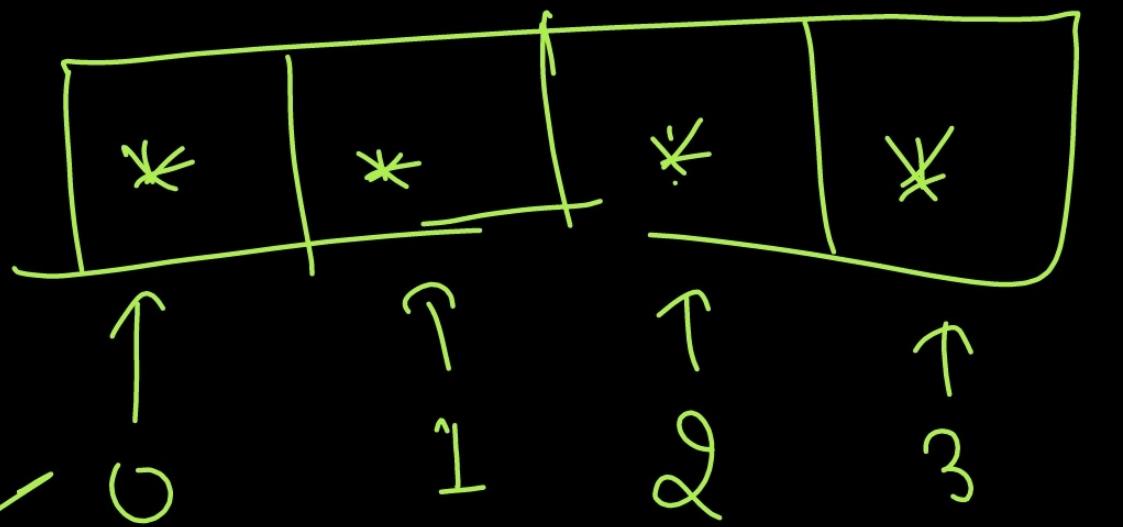


Revision for loop →

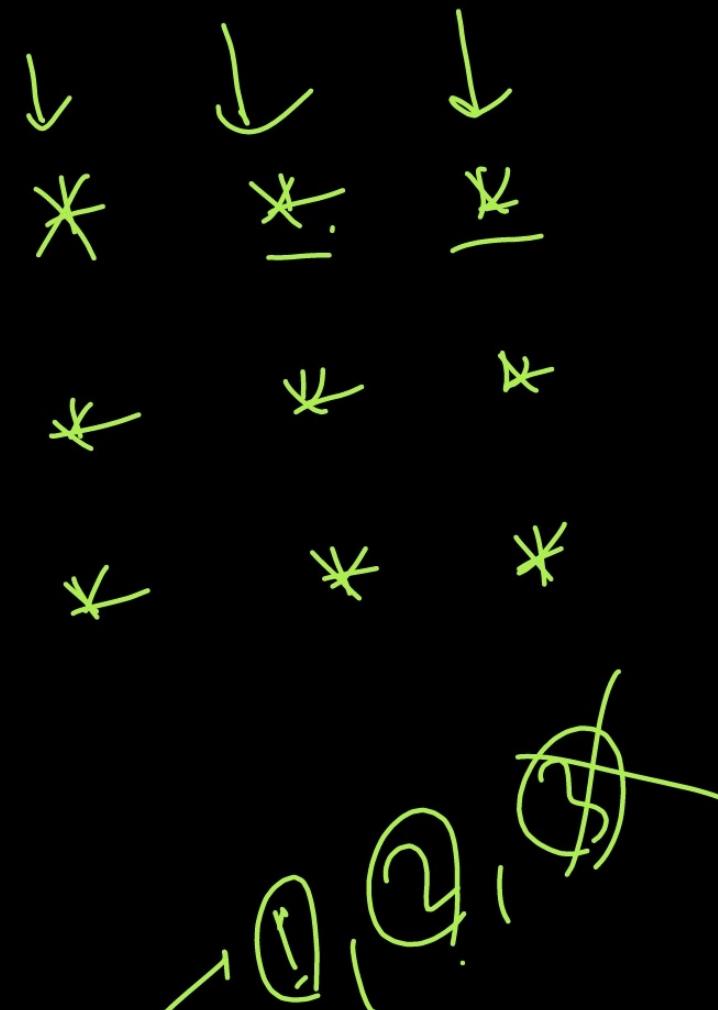
→ (Stack & Queue)

→ Sliding

(Indexes)



```
for (int i=0; i<3; i++) {  
    for (int j=0; j<3; j++) {  
        cout ("*");  
    } cout endl;  
}
```



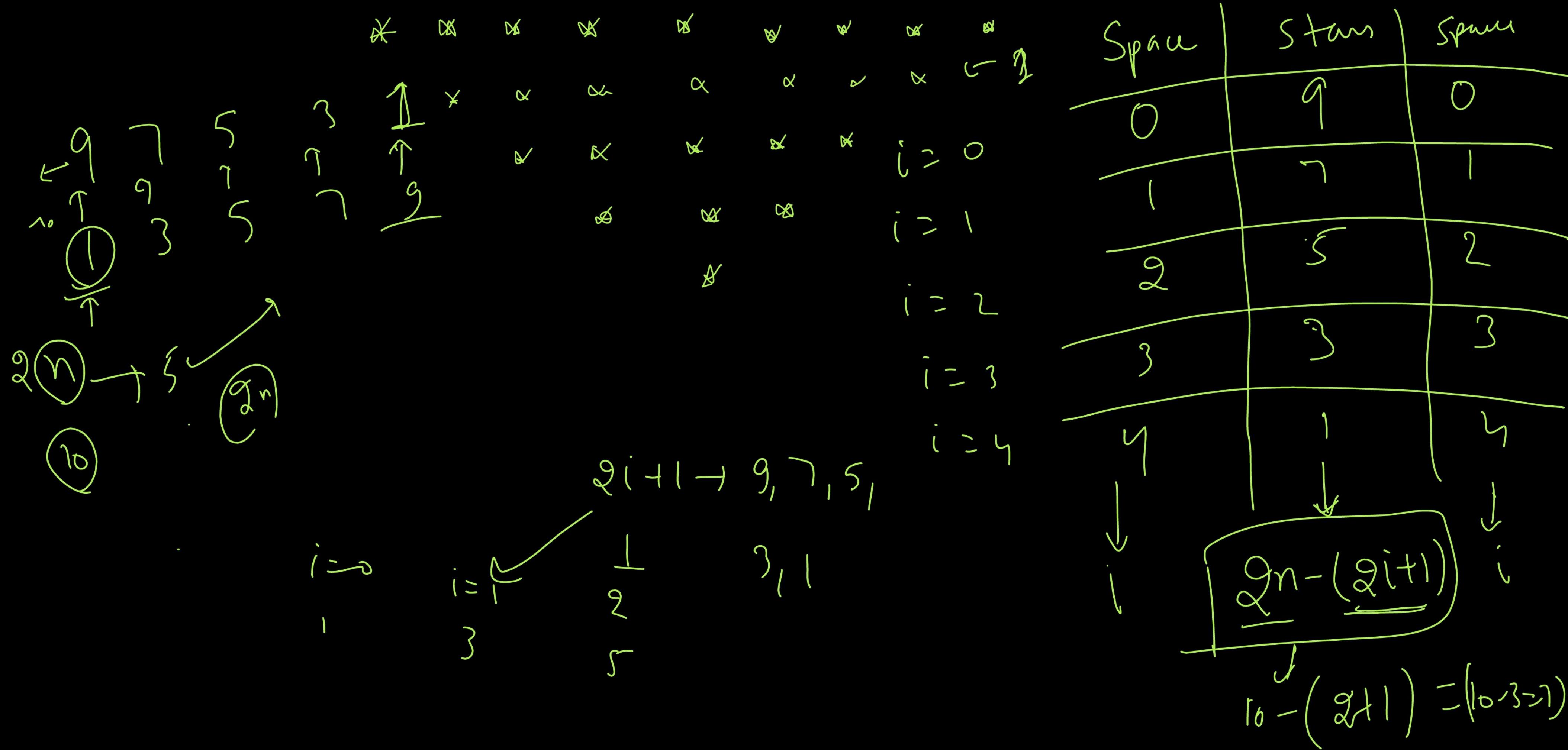
Pattern - 8
 spaces stars spaces
 1 4 0
 3 3 1
 5 2 2
 7 1 3
 9 0 4
 i = 0 1 2 3 4
 total rows -
 current row - 1
 Spaces = $n-i-1$
 $\times (5-0-5)$
 i = 0, spaces = $5-0-1 = 4$
 i = 1, spaces = $5-1-1 = 3$
 i = 2, spaces = $5-2-1 = 2$
 i = 3, spaces = $5-3-1 = 1$
 i = 4, spaces = $5-4-1 = 0$

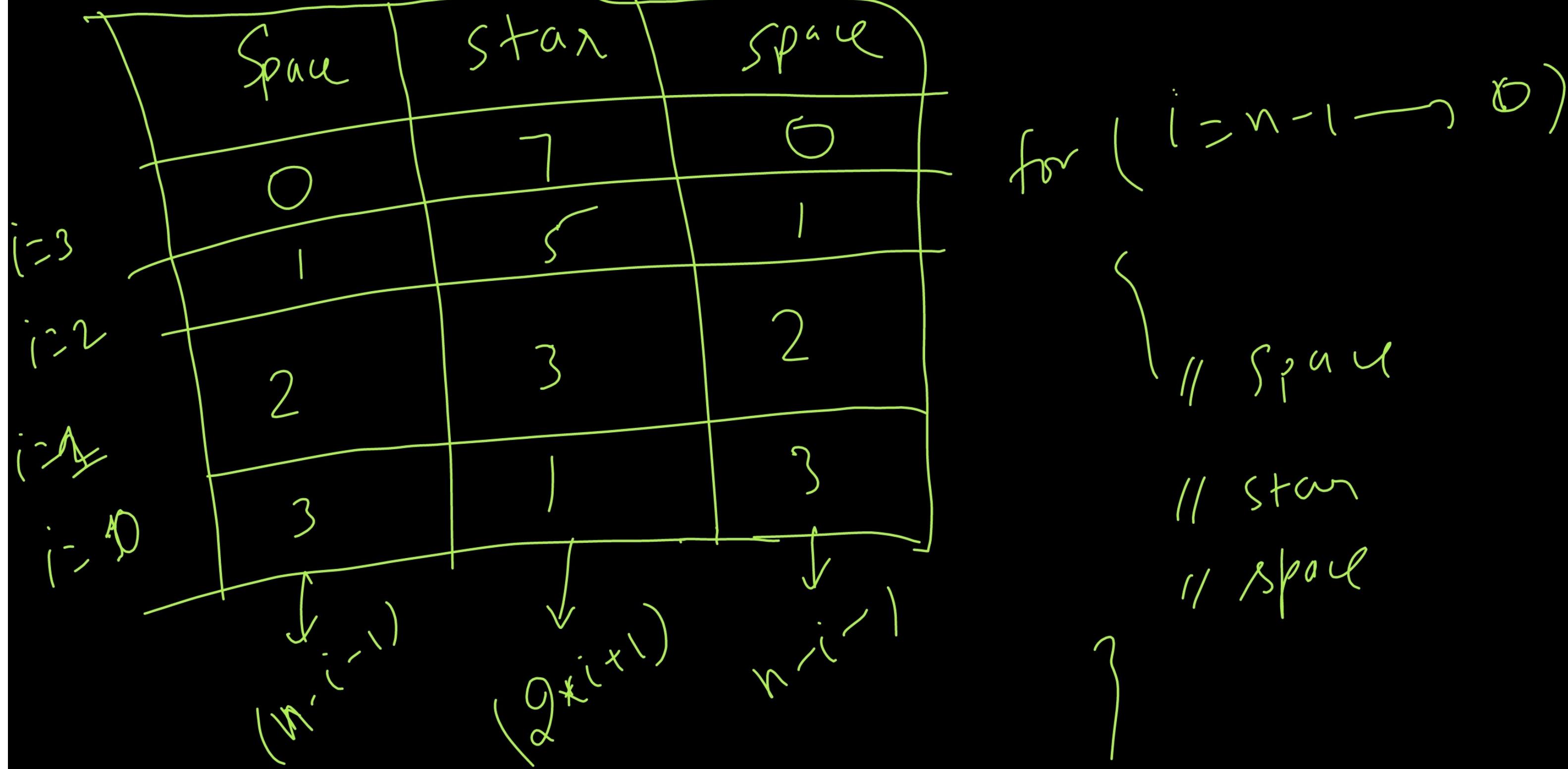
Pattern - 8
 * ---
 * * * ---
 * * * * * ---
 * * * * * * * ---
 * * * * * * * * * ---
 i = 0 1 2 3 4
 q_i = 1 3 5 7 9
 q_{i+1} = 2 4 6 8
 q_{i-1} = 0 2 4 6
 q_{i+2} = 3 5 7 9

```
for( int i=0 ; i < n ; i++ ) {  
    int spaces = n - i - 1;  
    for( int j=0 ; j < spaces ; j++ ) { // spaces  
        System.out.print(" ");  
    }  
    for( int j=0 ; j < 2*i+1 ; j++ ) { // stars  
        System.out.print("*");  
    }  
    for( int j=0 ; j < spaces ; j++ ) { // spaces  
        System.out.print(" ");  
    }  
    System.out.println();  
}
```

n = 5

// This last space
is optional, only
used for
symmetry purpose.





for (i = n - 1 → 0)

} // Space

} // star

} // Space

Pattern4.java

NumTriangle.java

Pattern5.java X

Pattern4.class

Pattern6.java

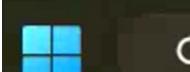
▷ ⌂ ⚙ ⏺ ...

Pattern5.java > ⚙ Pattern5 > main(String[])

```
1  public class Pattern5 {
    Run | Debug
2      public static void main(String[] args) {
3          int n = 4;
4          for(int i = 0;i<4;i++) {
5              for(int j = 0;j < n-i-1;j++) {
6                  System.out.print(s: "S");
7              } //spaces
8
9              for(int j = 0;j<2*i+1;j++) {
10                 System.out.print(s: "*");
11             } //stars
12
13             for(int j = 0;j<n-i-1;j++) {
14                 System.out.print(s: "S");
15             } //spaces
16             System.out.println();
17         }
18     }
```

Java: Ready

Ln 8, Col 1 Spaces: 4 UTF-8 CRLF { } Java ⚙ (⌚) Go Live ⚡ Prettier ⚡



Search



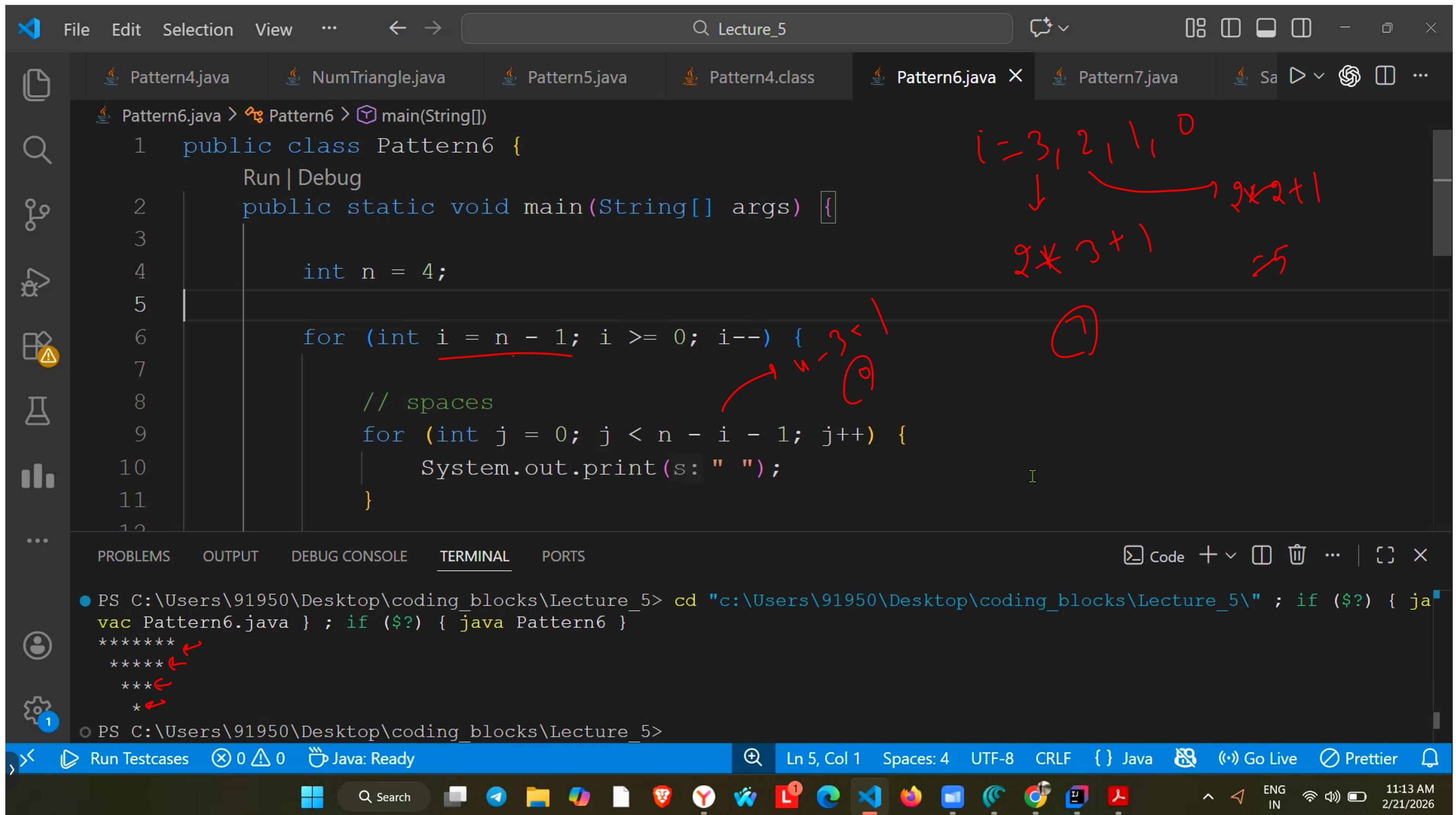
^ ⌂

ENG IN

⌚

10:51 AM

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File Edit Selection View ... ← → Q Lecture_5

Pattern4.java NumTriangle.java Pattern5.java Pattern4.class Pattern6.java Pattern7.java X Sa D v ...

Pattern7.java > Pattern7 > main(String[])

```
1 public class Pattern7 {
    Run | Debug
2     public static void main(String[] args) {
3         int totalRows = 9;           → (say n)
4         int midPoint = totalRows / 2;
5         for(int i = 0;i<totalRows;i++) {
6             int numStars;
7             if(i <= midPoint) {
8                 numStars = i + 1;
9             }else{
10                numStars = totalRows - i;
11            }
12            for(int j = 0;j<numStars;j++) {
13                System.out.print(s: "*");
14            }
15            System.out.println();
16        }
17    }
18 }
```

for normal over
(for splitting Patterns)
(for printing stars)

Run Testcases (0) Java: Ready

Q Ln 16, Col 34 Spaces: 4 UTF-8 CRLF {} Java Go Live Prettier ENG IN 12:04 PM 2/21/2026

