

Pattern Printing - 1

Lecture - 7

Raghav Garg



```
12345 user input = no. of rows & no. of columns

1*****

2 *****

3 *****

each line

each line
```

$$n = 9$$
 $m = 3$



```
*****
****
****
```

User input -> n -> side of square

Solid Square



$$n=3$$
 $n=2$ $n=1$
 $1 \ 2 \ 3$ $1 \ 2$ 1
 $1 \ 2 \ 3$ $1 \ 2$

for (int
$$i = 1$$
, $i = n$; $i + t$) $i = n$; $i + t$ $i = n$; $i = n$; $i + t$ $i = n$; $i = n$

Number Square

```
SKILLS
```

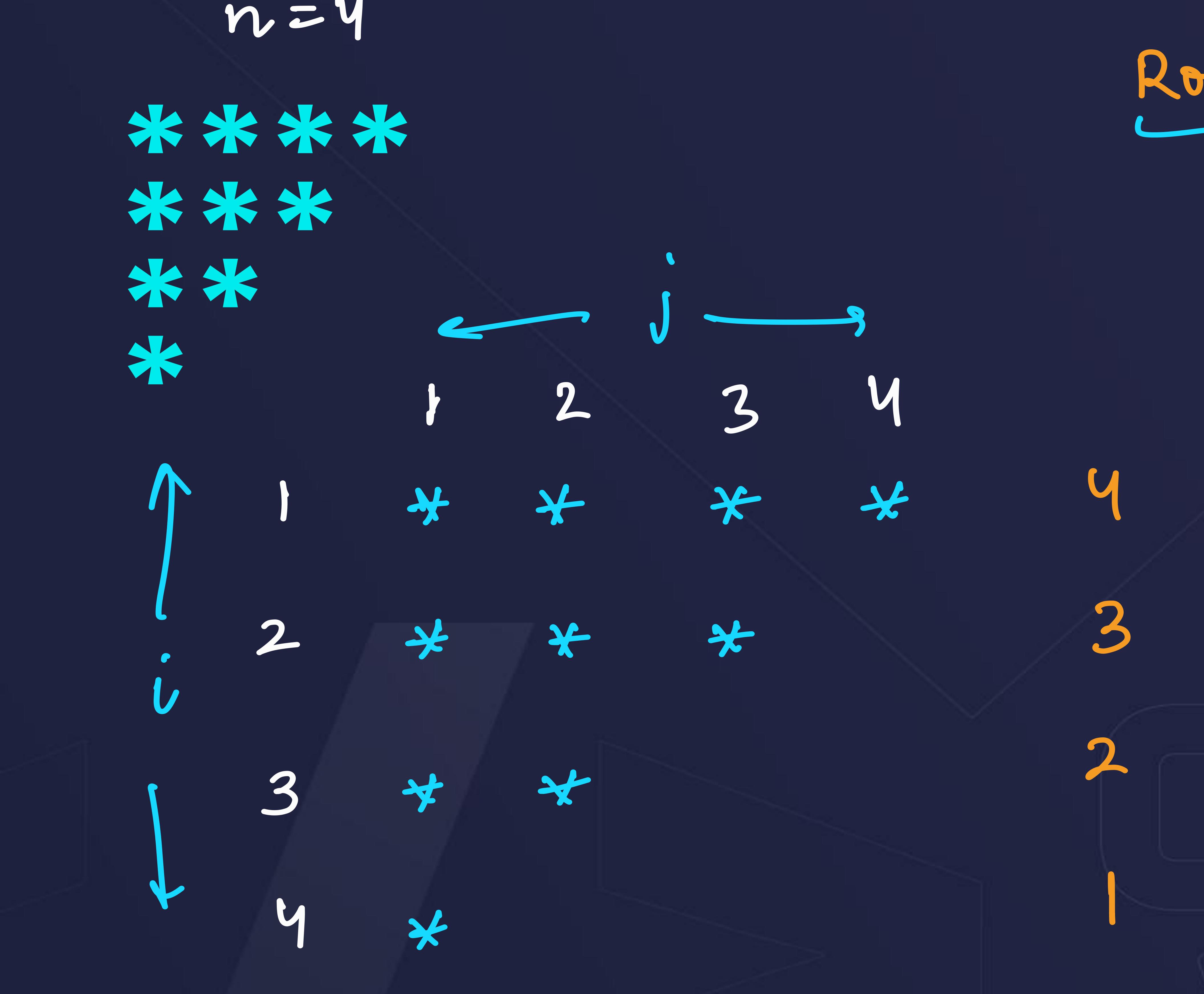
```
h = 3
```

```
for(int i=1;i<=n;i++){
    for(int j=1;j<=n;j++){
        cout<<j;
    }
    cout<<endl;
}</pre>
```

```
m, s
                1 = 1 2 3 4
                 j=121234344
for(int i=1;i<=n;i++){
    for(int j=1;j<=i;j++){
       cout<<"*";
    cout<endl;
```

Outh ut





Row no. + no. of stars =
$$n+1$$

no. of stars = $n+1-i$

Star Triangle Reverse



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

```
for (int i=1; i==n; i++){

for (int j=1; j==i; j++){

cout <<j;

cout <<code

cout <</td>
```



```
1 2 3 4
1 1 3
2 1 3 5
3 1 3 5 7
4 1 3 5 7
```

Odd Number Triangle



```
ABCD
ABCD
ABCD
1234
ABCD
1234
1234
```

```
65 66 67 68
```

Klint: ASCII values

Alphabet Square



Ques: Print the given pattern (n = odd)

```
1 2 3 4 S

1 ##* ##

2 ##* ##

3 ** ** **

4 # # ##

5 ## ##
```

int mid =
$$\frac{n}{2}$$
 + 1

Star Plus

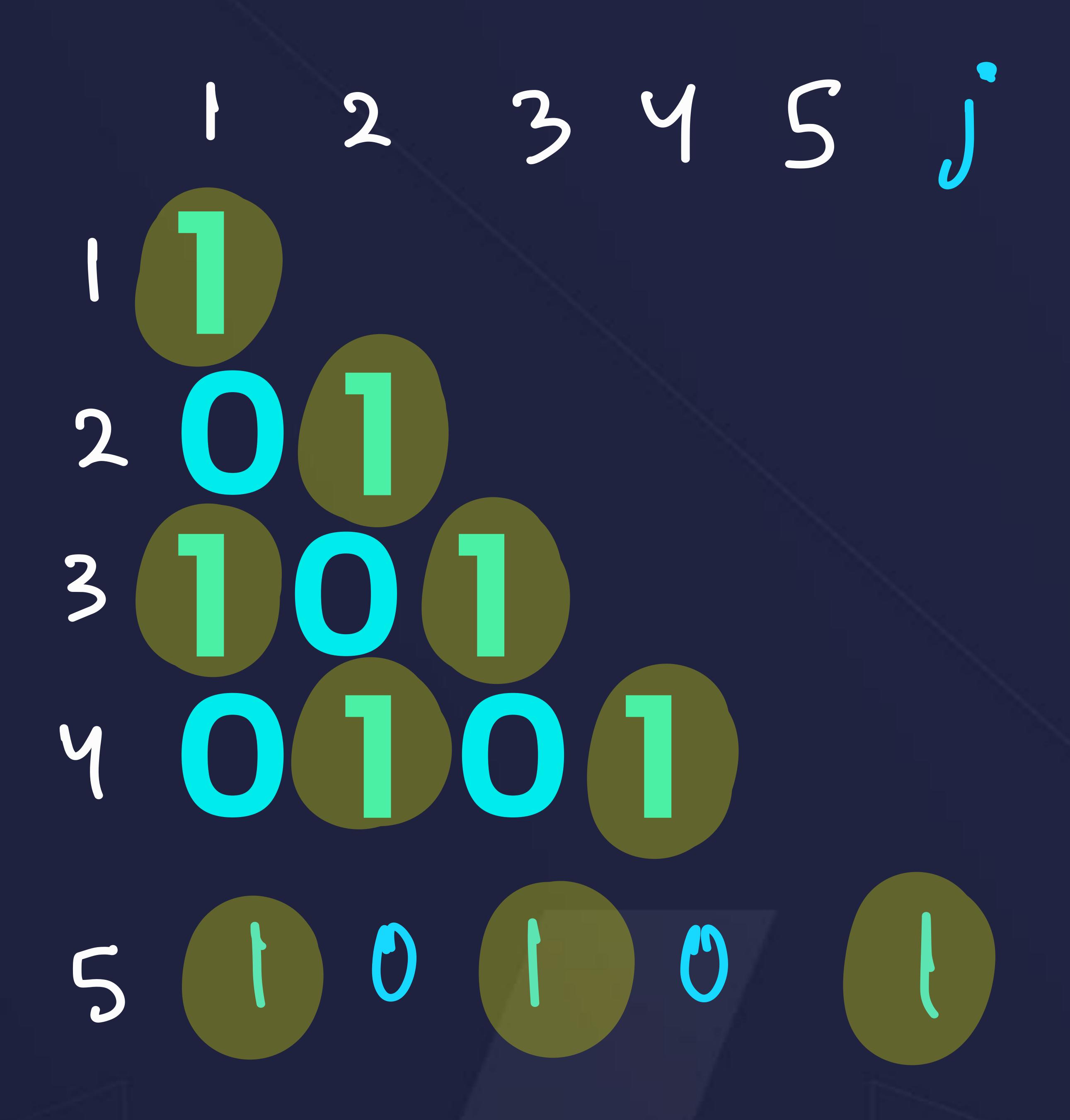


$$12345$$
 $*--*$
 $-*-*$
 $-*-*$
 145
 $2-*$
 $3--*$
 $-*-*$
 $1+j=n+1$









ib
$$(i==j) \rightarrow 1$$

if ile j both odd = 1

ile j both even = 1

ile (i+j % 2 == 0) = 1



Star Triangle Flipped



```
1234
3 - * * *
```

```
RILLS
```

```
for(int i=1;i<=n;i++){
   // spaces
   for(int j=1;j<=n-i;j++){
     cout<<":
   for(int k=1; k<=i; k++){
       cout<<"*;
   cout<<endl;
5 k k
```

$$n = 3$$

$$n - i = 10$$

$$i = 123$$

$$j = 123 + 2$$

$$K = 121$$



```
---1
--12
-123
1234
```

Assignment - Sharp

Number Triangle Flipped



What's in the next lecture?

More patterns!

More interesting and with more fun!

