

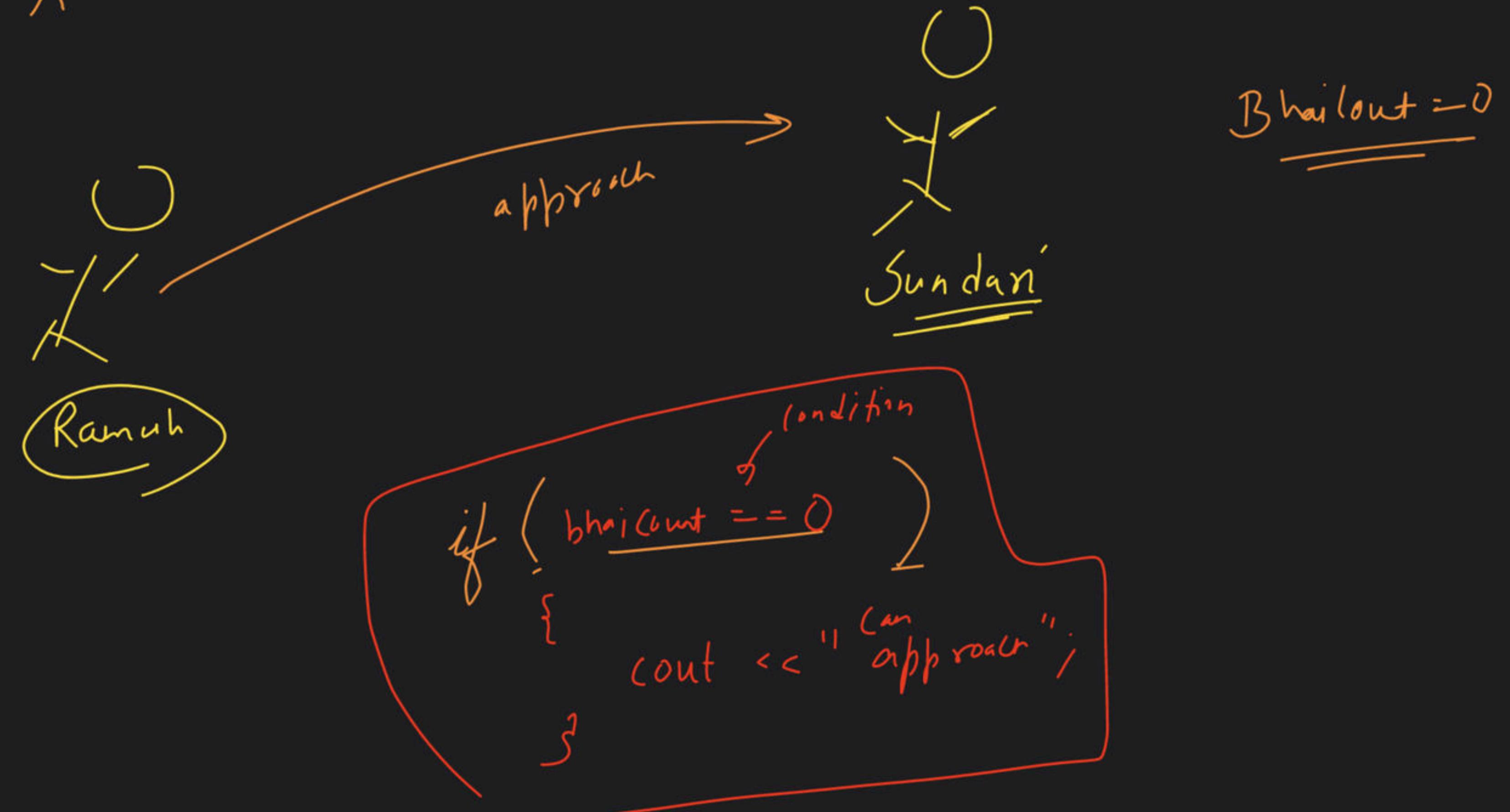


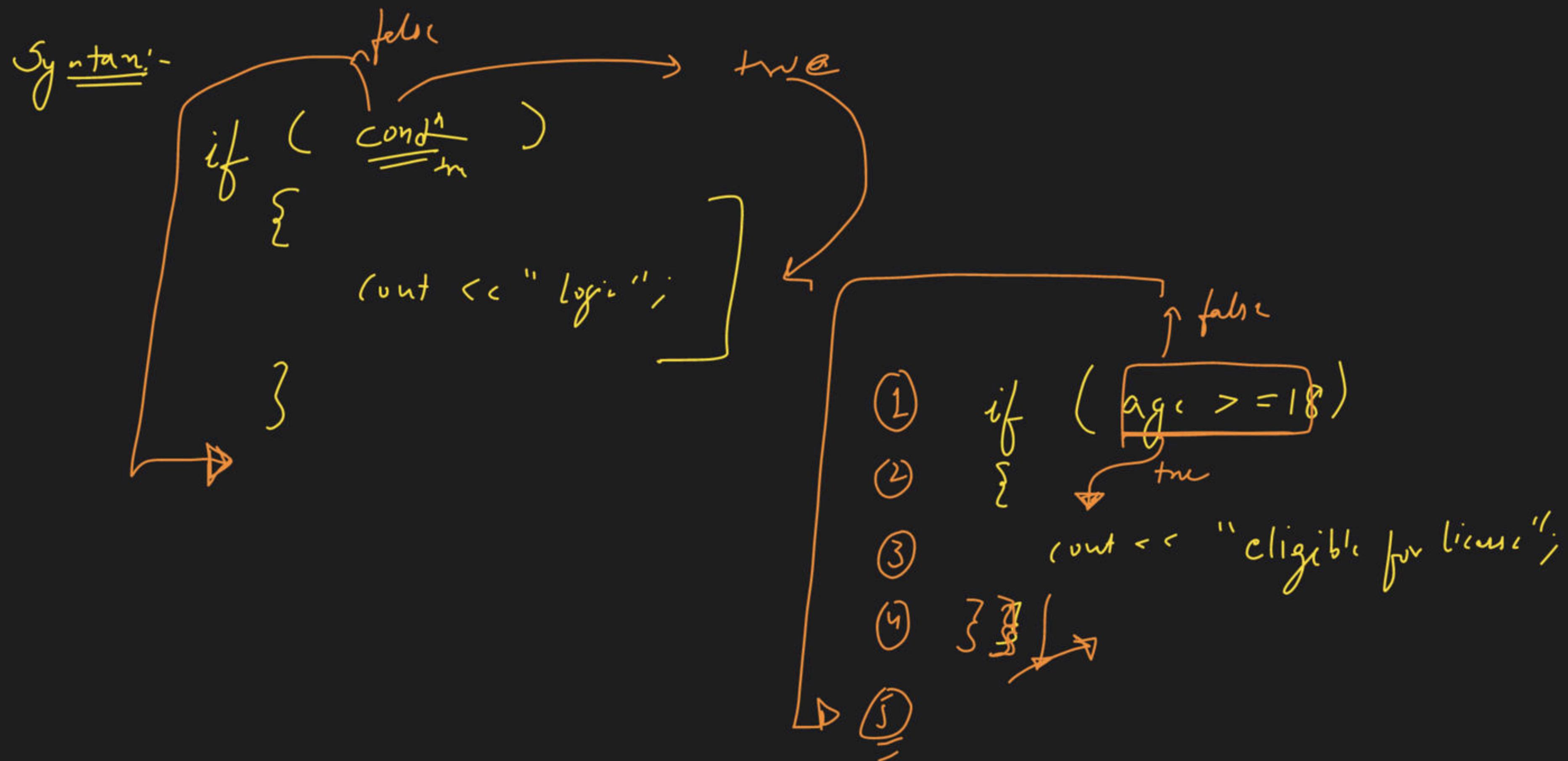
Conditionals & Loops

Special class

Love Babbar • Aug 28, 2023

Conditionals :-

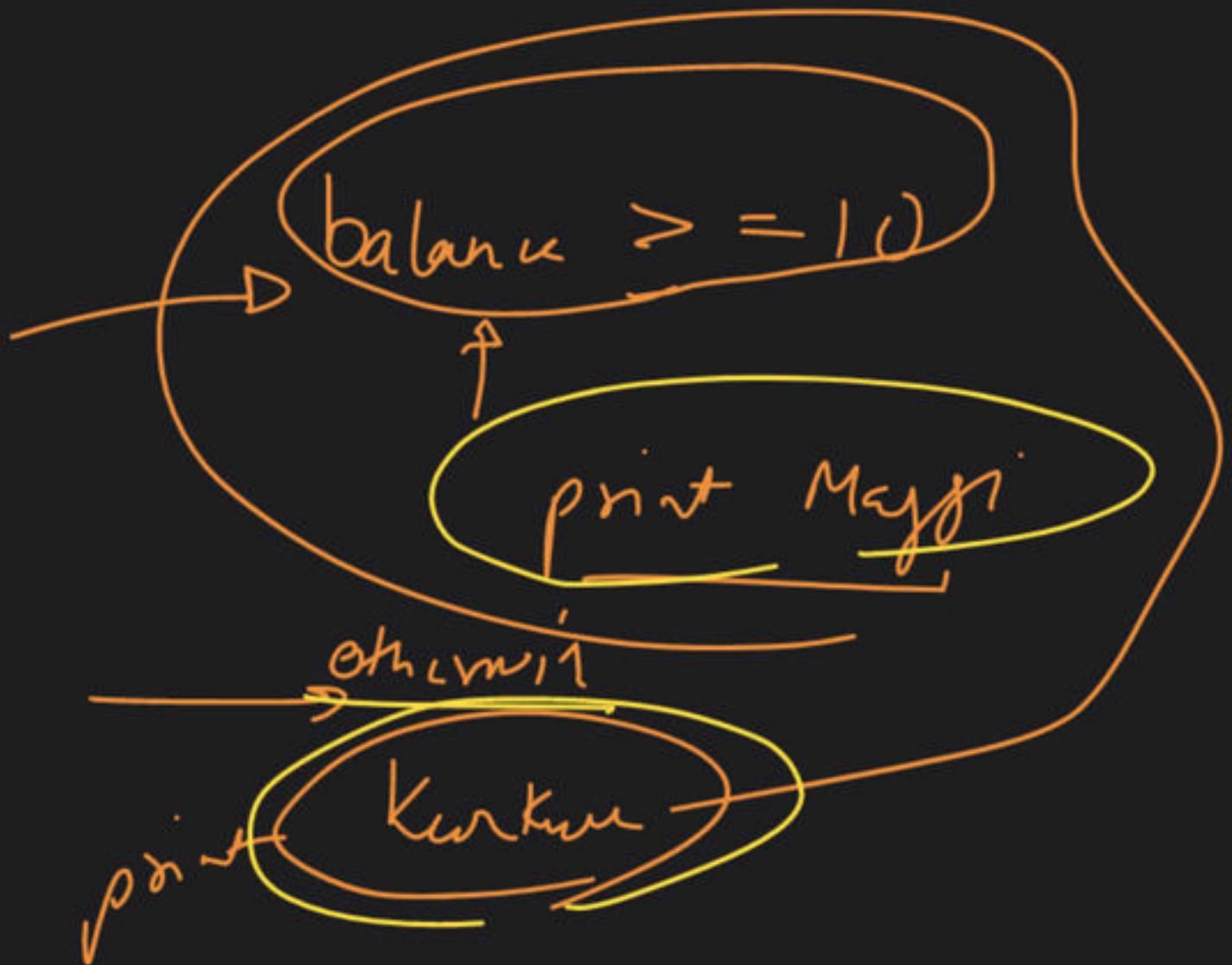






```
if ( balance >= 10 )  
{  
    cout << "Maggi"  
}  
else  
{  
    cout << "Kunkuru"  
}
```

if - block



if - un - block

if else block

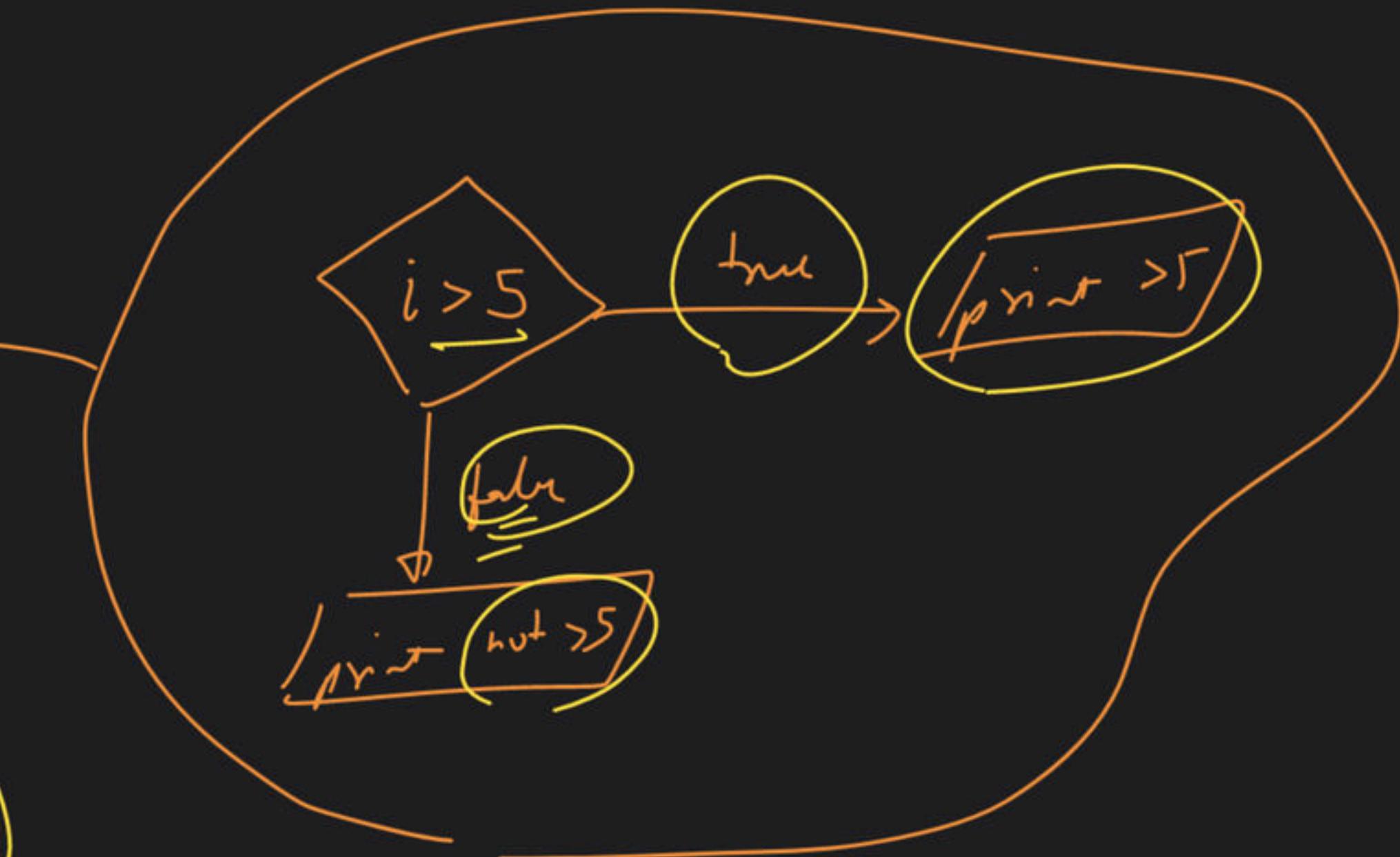
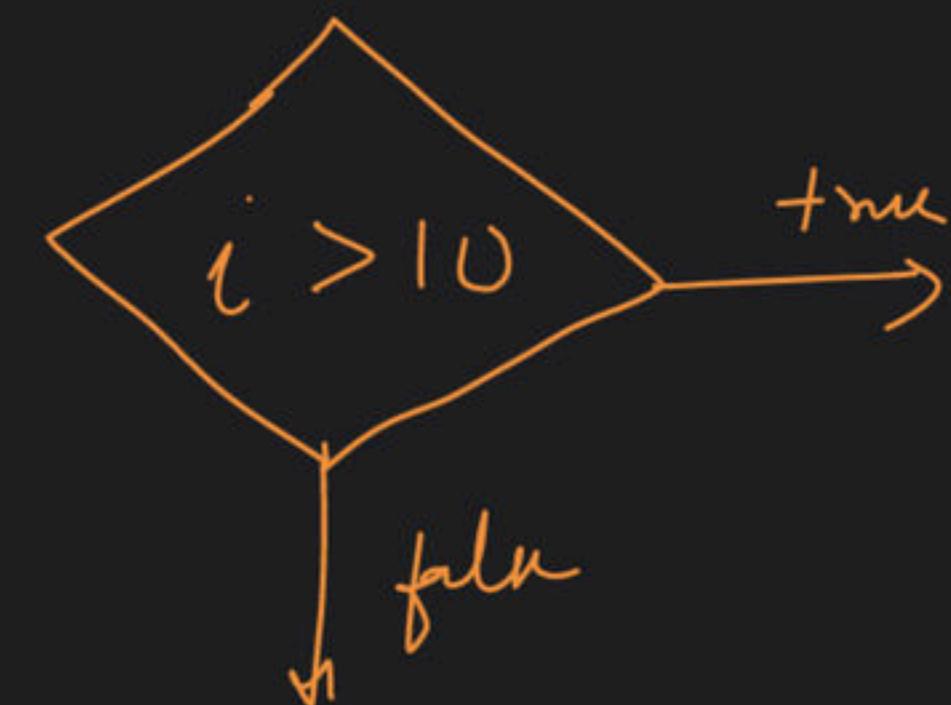
Syntax :-

```
if (cond)
{
    // logic
}
else
{
    // logic
}
```

```

if ( i > 5 )
{
    cout << " > 5 ";
}
else
{
    cout << " not > 5 ";
}

```



H/E

sides == 3

true

print triangle

false → print not a triangle

if (sides == 3)

{

cout << "triangle";

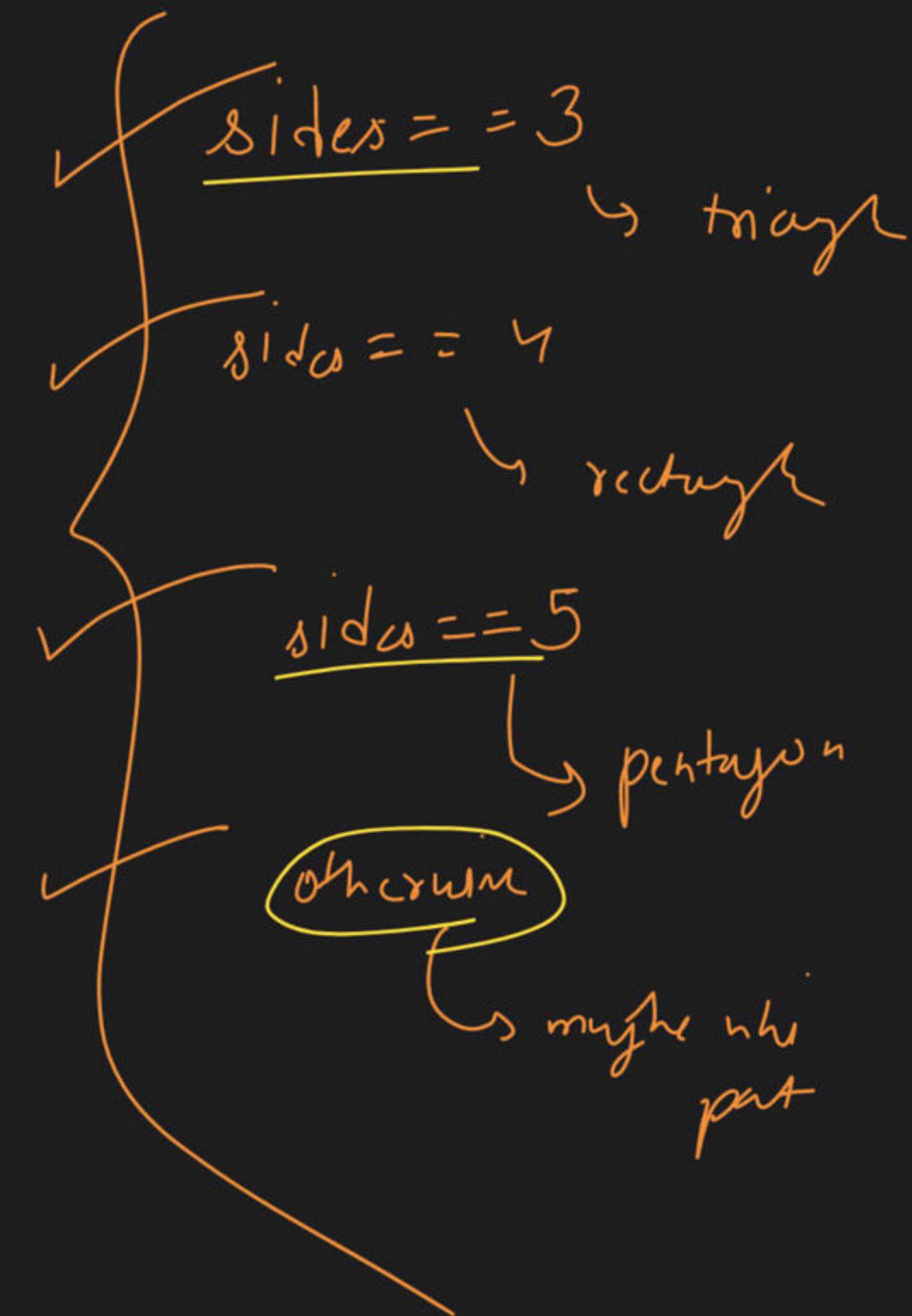
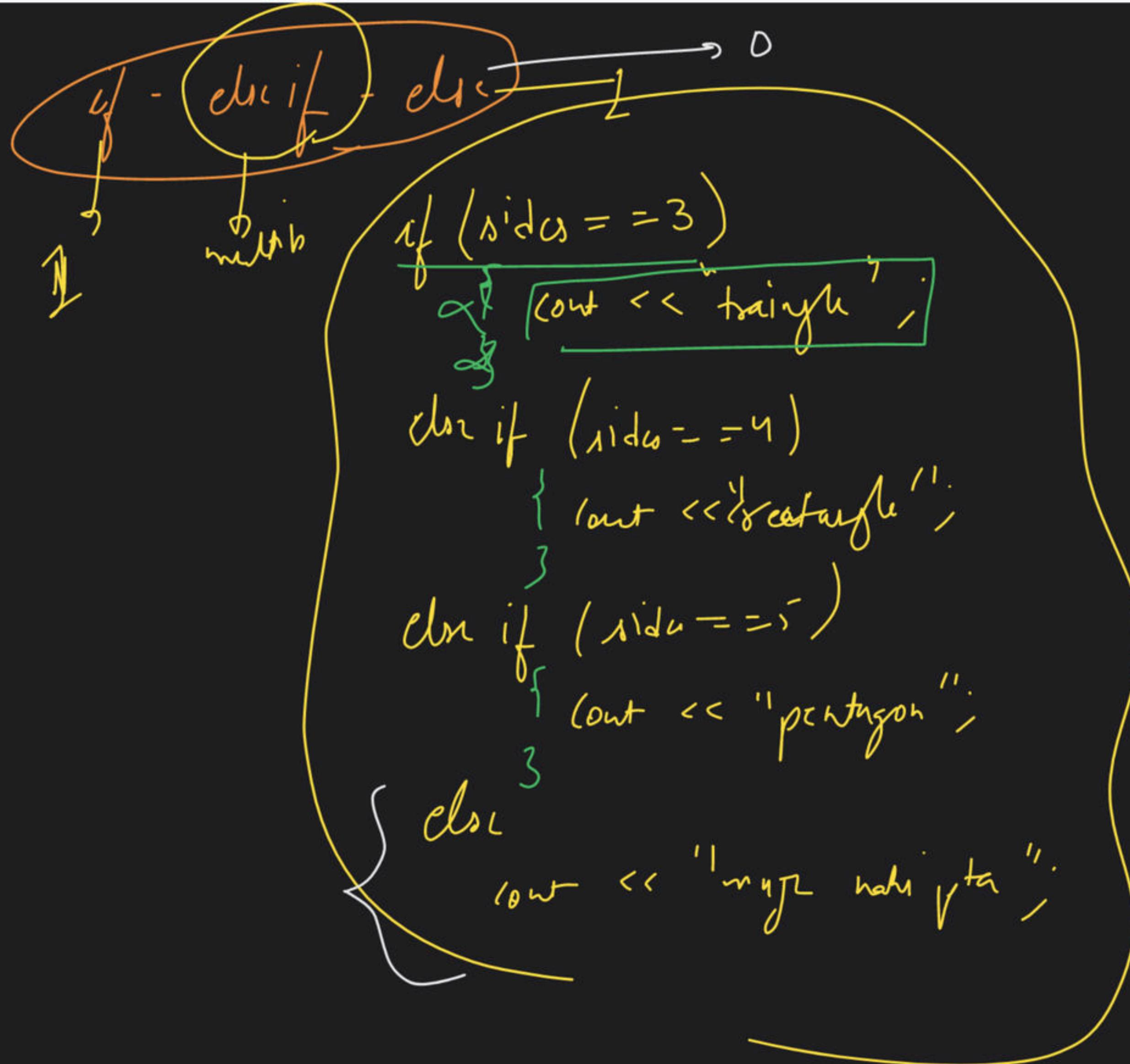
}

else

{

cout << "not a triangle";

}



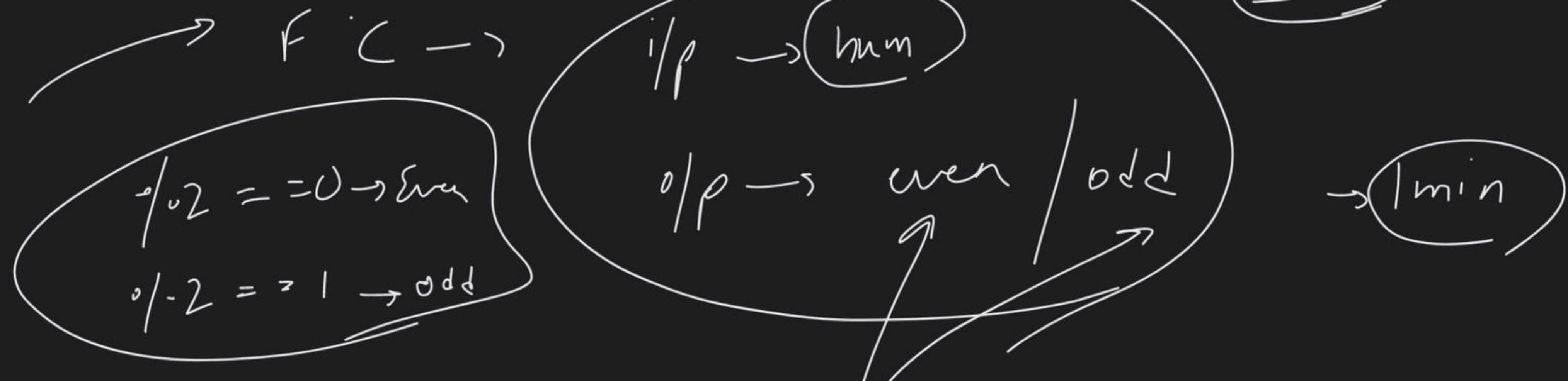
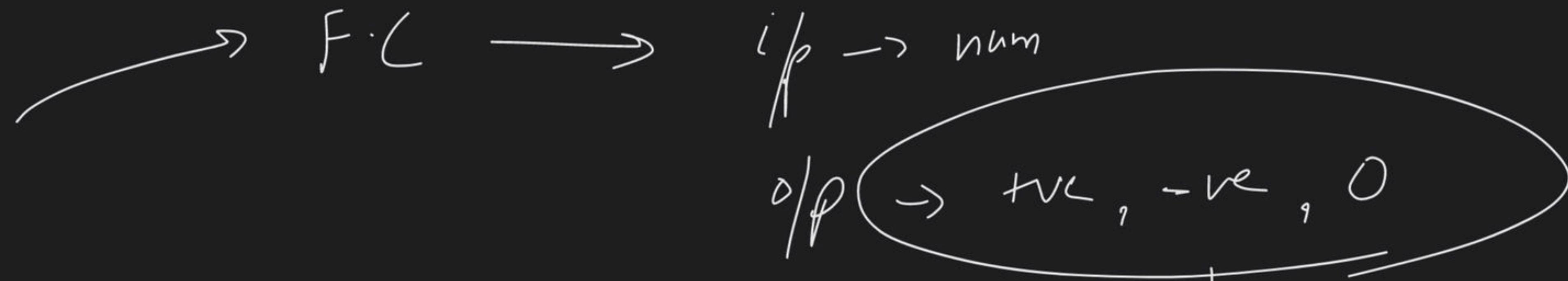
~~if - else . if - else~~

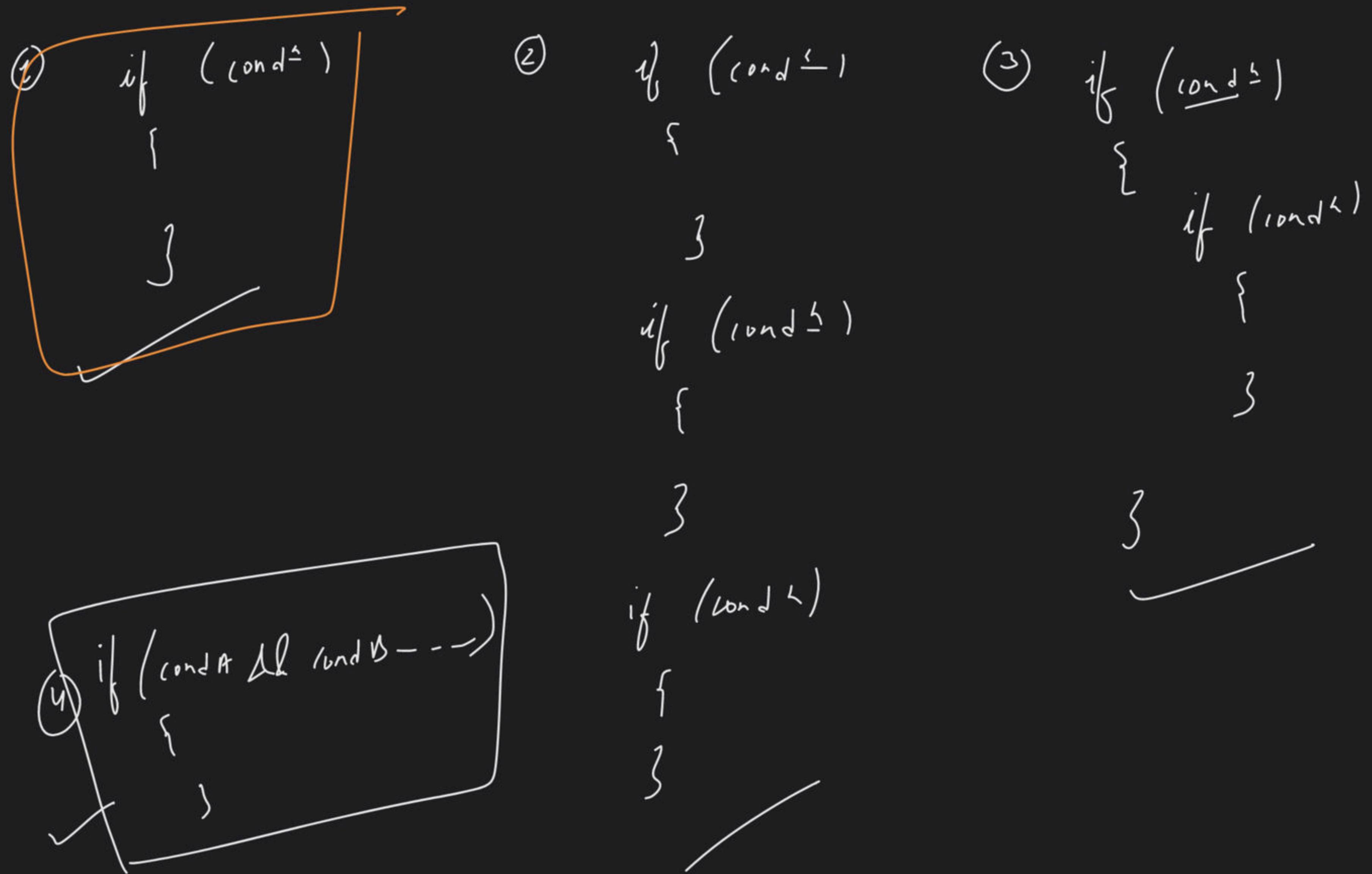
if (cond¹)
{
 ; /
}
else if (cond²)
{
 ; /
}
else if (cond³)
{
 ; /
}
else {
 ; /
}

optional

if ()
{
 ; /
}
if ()
{
 ; /
}
else {
 ; /
}

if





```
if ( cond )
```

```
{
```

```
}
```

```
do:
```

```
{
```

```
}
```

```
if ( cond )
```

```
{
```

```
if ( )
```

```
{
```

```
do
```

```
{
```

```
}
```

```
do
```

```
{
```

```
}
```

if ()
{
}
3

if ()
{
}
3

dn if ()
{
}
]
|
/
/
/

dn if
|
|
→
|
|
→

dnL
{
}
3

dn if ()
{
}
3

if ($a > 5$) false

if ($c > 10$)

{
 lout << "Sainik";
}

else

{
 if

{
 if ($b == 10$) true

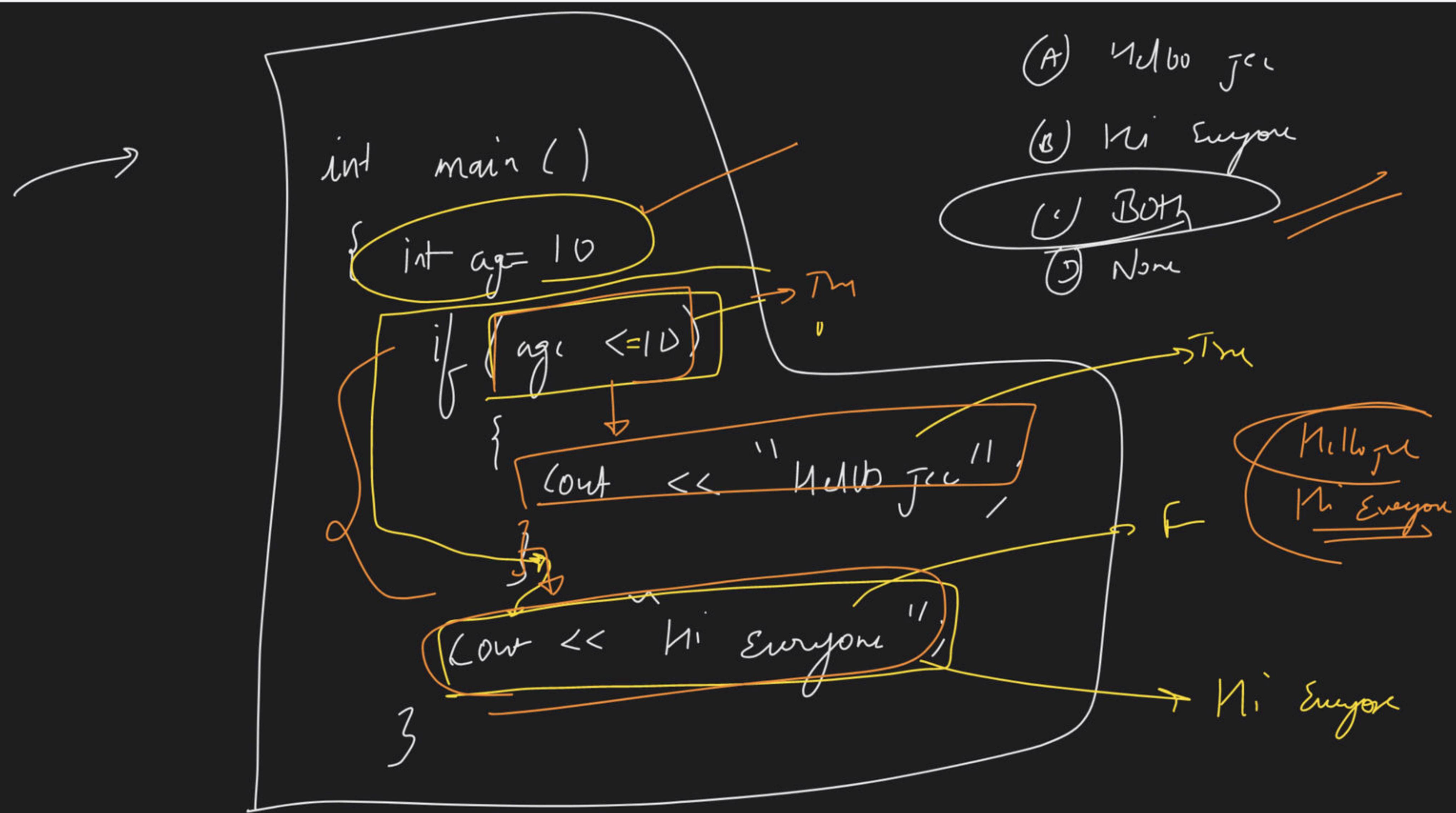
{
 if ($c > 10$) true

{
 lout << "Sibahi";

false

$a = 5$
 $b = 10$
 $c = 15$

Sibahi

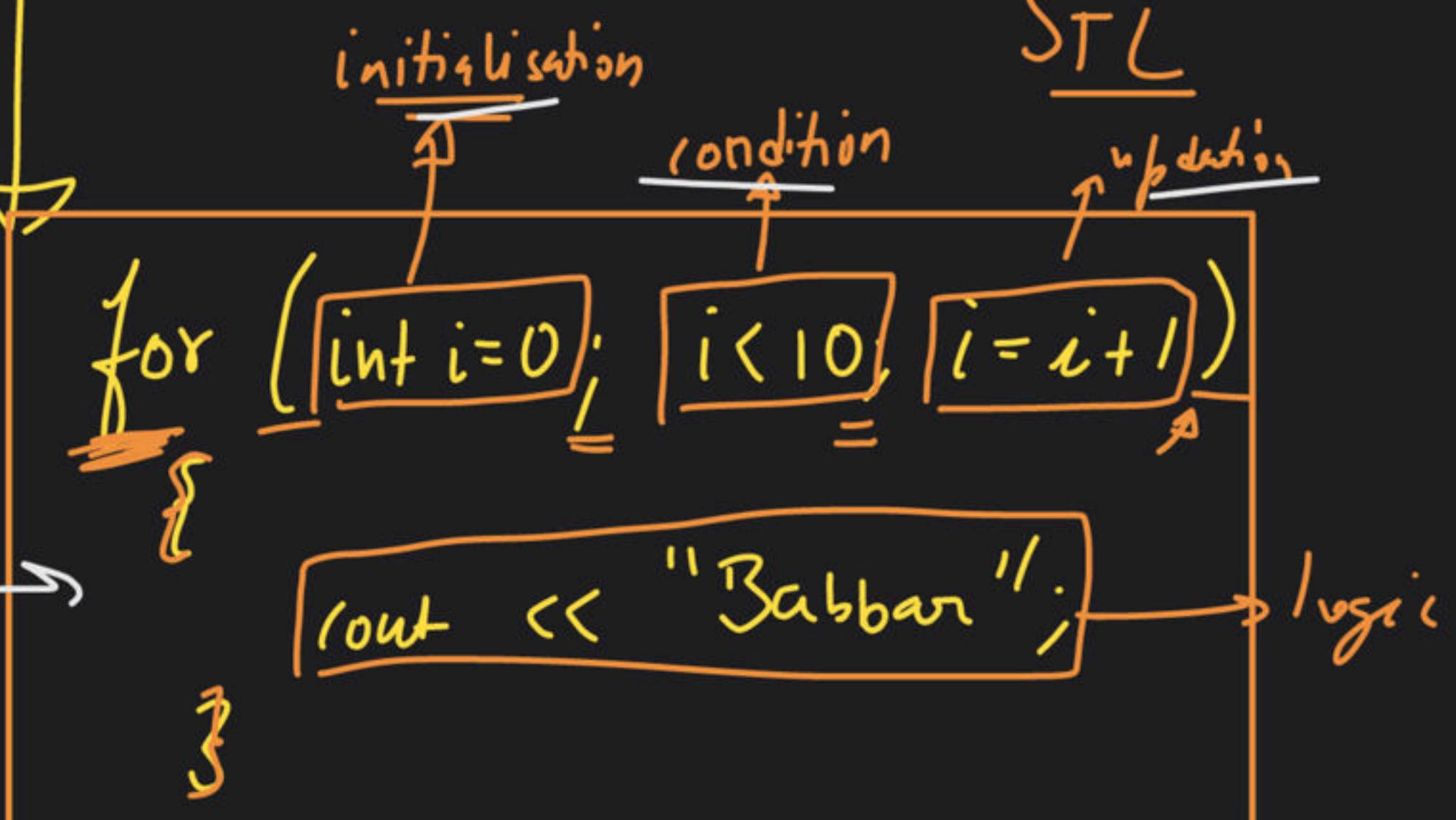




MCD

loop

for
while
do while
for - each



switch case
array op
typewrt
TRUST

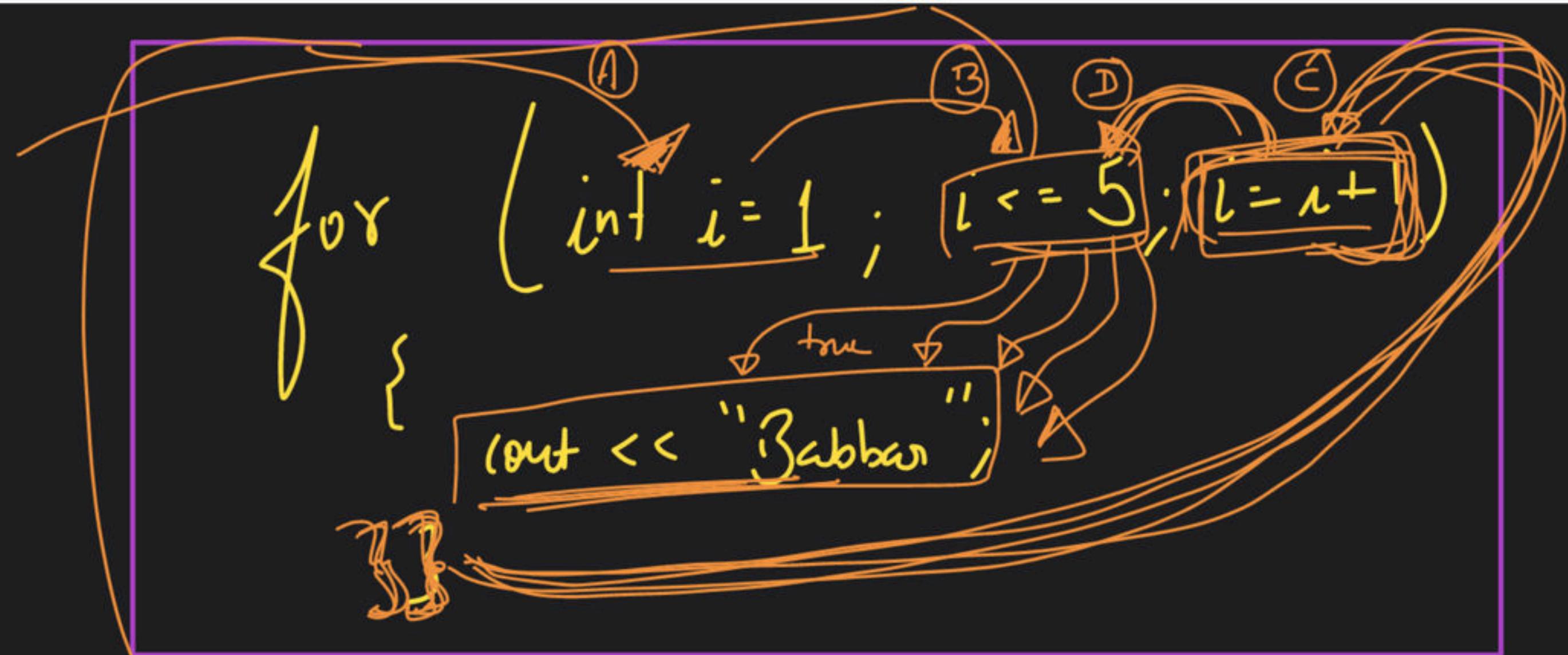
3rd MS DHONI

STL
update

```
for ( initialisation ; cond ; updation )  
{
```

// logic

3



↓ false

$i <= 1 \rightarrow \text{false}$

$i <= 5 \rightarrow \text{True}$
 "Babbar"
 $i = i + 1 = 1 + 1 = 2$

$i <= 5 \rightarrow \text{True}$

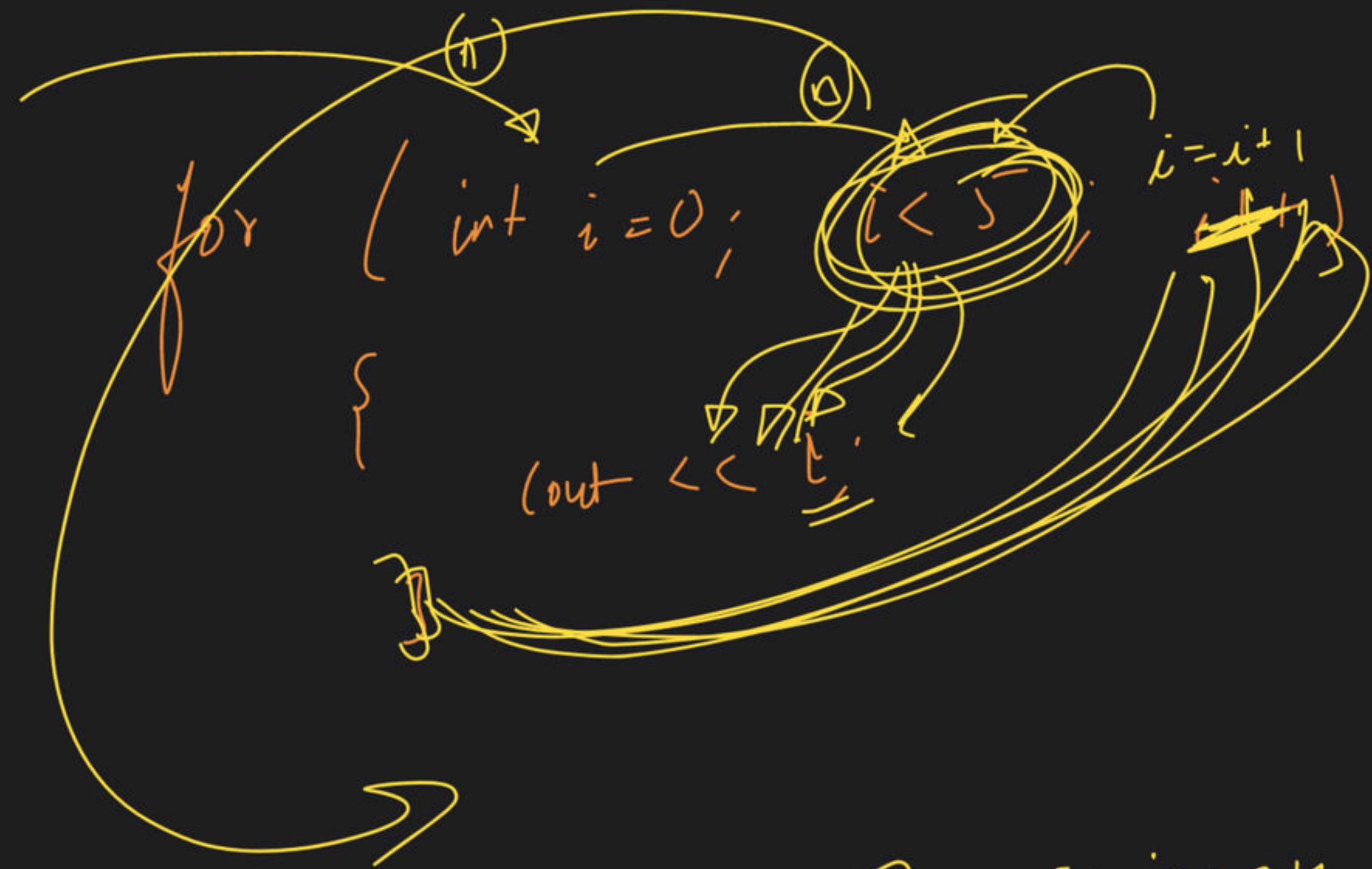
"Babbar"
 $i = i + 1 = 2 + 1 = 3$

$i <= 5 \rightarrow \text{True}$

"Babbar"
 $i = i + 1 = 3 + 1 = 4$

$i <= 5 \rightarrow \text{True}$

"Babbar"
 $i = i + 1 = 4 + 1 = 5$



$i - i + 1 = 1 + 1 = 2$

$s < r \rightarrow \text{false}$

$i - i + 1 = 2 + 1 = 3$

$y < r \rightarrow \text{true}$

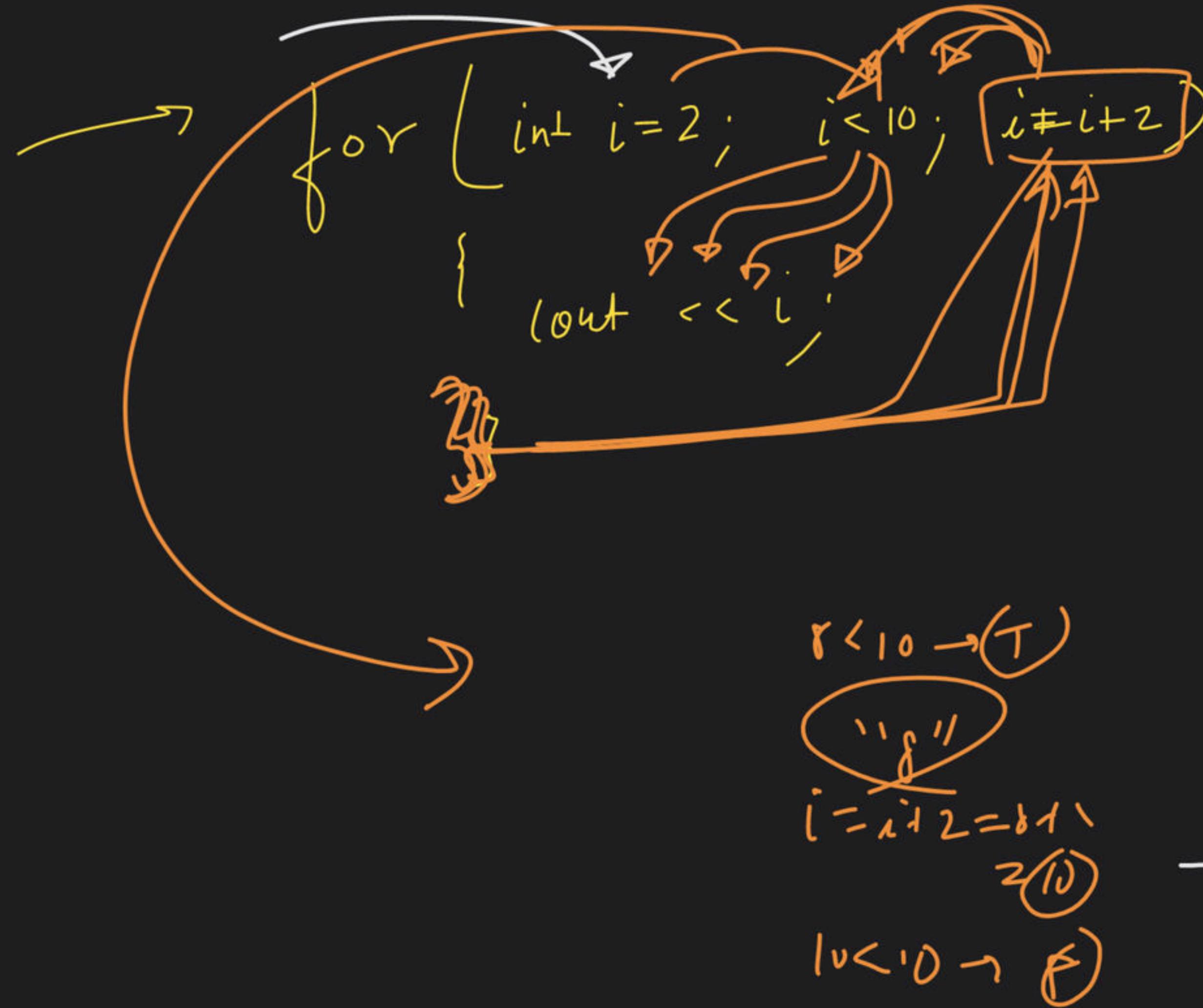
"y"

$i = 0$
 $0 < 5 \rightarrow \text{true}$
 "0"
 $i - i + 1 = 0 + 1 = 1$
 $1 < 5 \rightarrow \text{true}$
 "1"
 $i - i + 1 = 1 + 1 = 2$
 $2 < 5 \rightarrow \text{true}$
 "2"
 $i - i + 1 = 2 + 1 = 3$
 $3 < 5 \rightarrow \text{true}$
 "3"

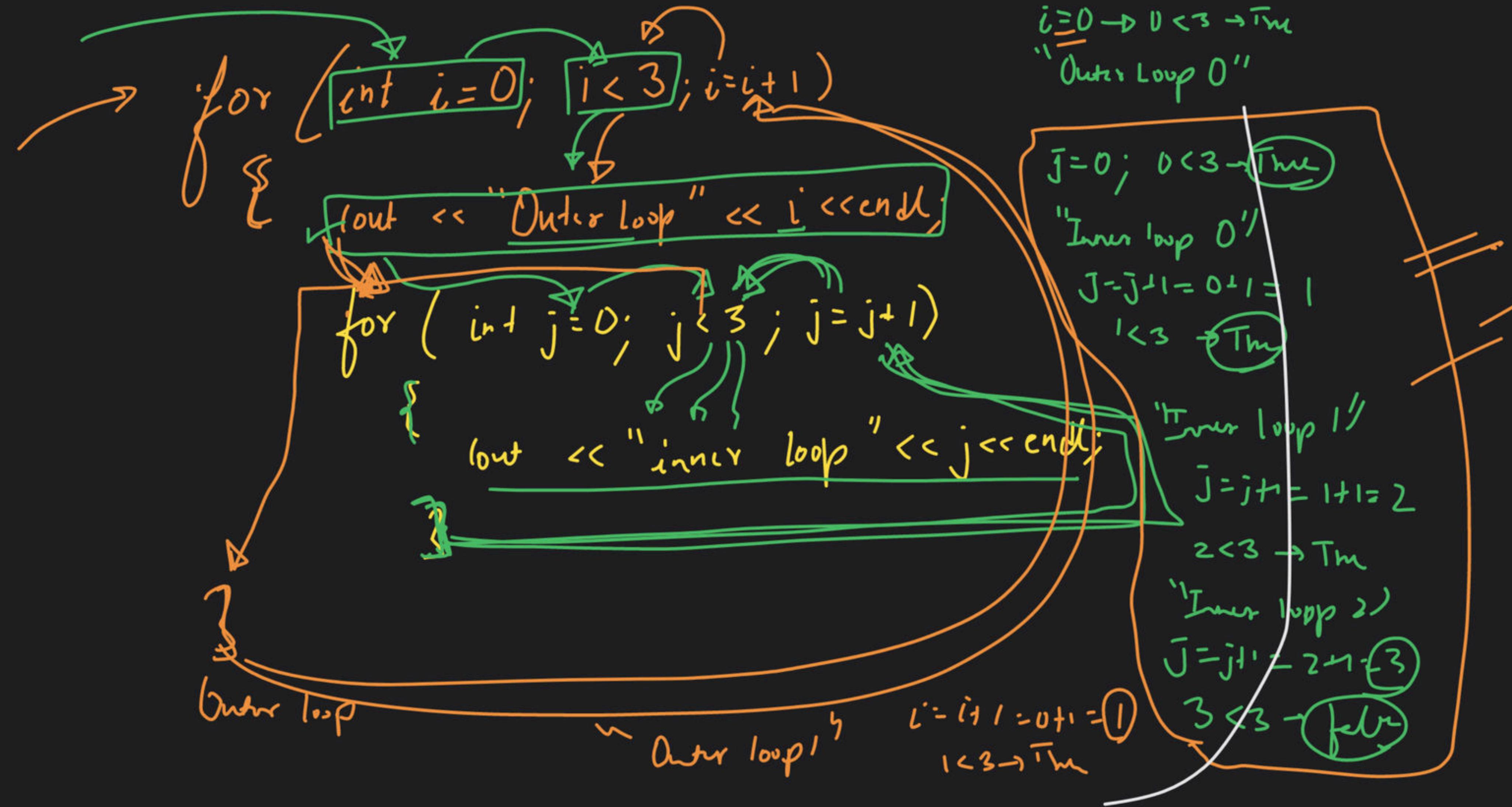
```
for (int i=10; i<=12; i=i+1)  
{  
    cout << "Monica, my darling"  
}
```

Dry Run

BB 2 min



$i = 2$
 $2 < 10 \rightarrow T$
 $i = 2''$
 $i = i + 2 = 2 + 2 = 4$
 $4 < 10 \rightarrow T$
 $i = 4''$
 $i = i + 2 = 4 + 2 = 6$
 $6 < 10 \rightarrow T$
 $i = 6''$
 $i = i + 2 = 6 + 2 = 8$



```
for ( int i=0; i<s; i=i+1 )
```

{

```
cout << "Hi".
```

{

```
for ( ; ; )
```

{

{

```
for (int i=0; i<5; i=i+1)
```

{

```
    cout << i
```

}



→ 11 bar → Name Point

→ 1g table → print

→ 1 → 100 → Even no → print

Z

Z

0

|| time ->

```
for (int i=1; i<=11; i++)  
{  
    cout << "Bobbar";  
}
```

i)

lg table

```
for (int i=1; i<=10; i++)  
{  
    cout << lg lg x i; //  
}
```

lg x 1
lg x 2
lg x 3
lg x 4
lg x 5
lg x 6
lg x 7
lg x 8
lg x 9
lg x 10

③

$i \rightarrow 100$

Even

```
for (int i = 1; i <= 100; i++)
```

{

```
    if (i % 2 == 0)
```

{

```
        cout << i << endl;
```

}

}

A

int h;

if (cin > n)

Cout << "Love Babbar"

Bunny

Question

(B)

int n = 10;

if (out << n)

{

 out << "Love Batbar";

}

for

 out.

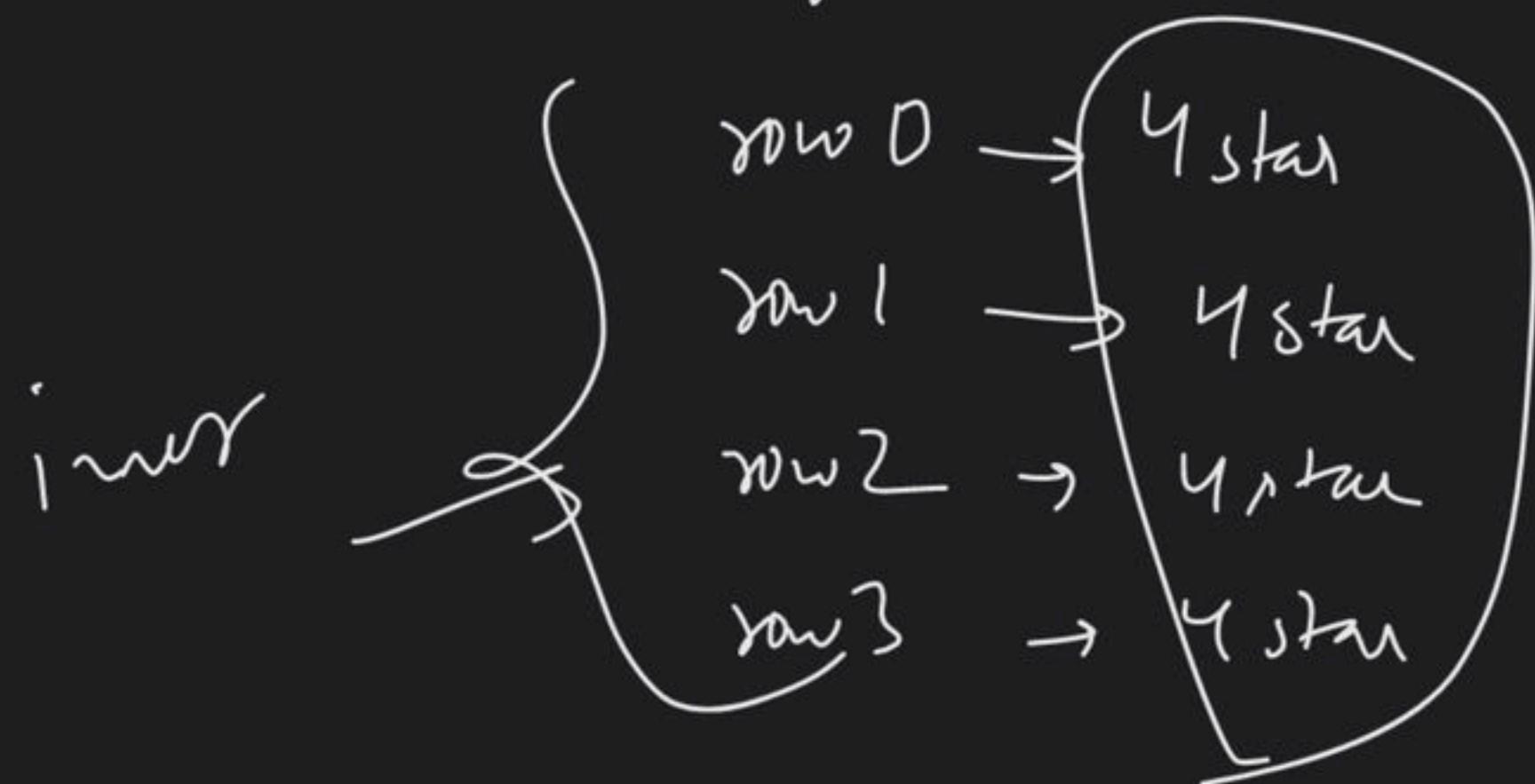
 Pattern Printing

Square

① find no. of row

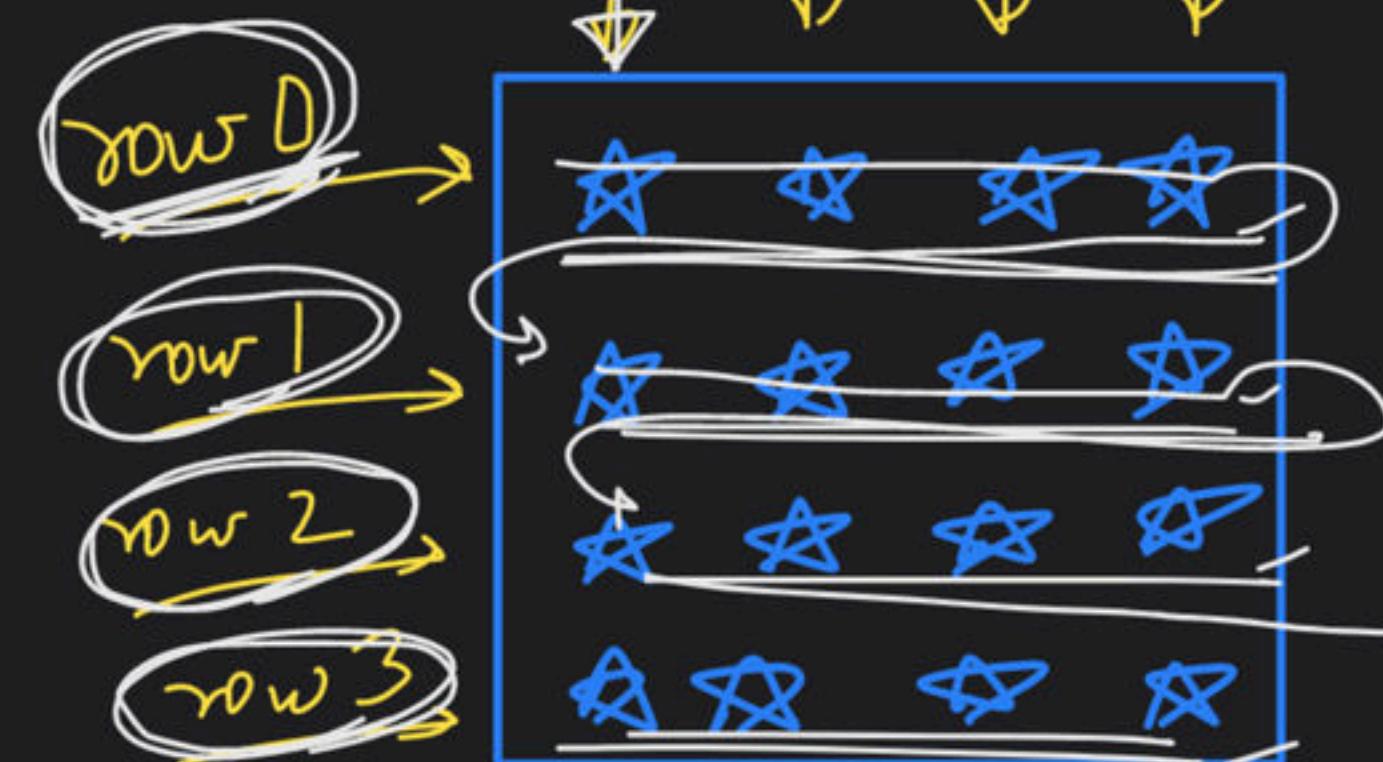


② write down for each row



Outer loop in
Kya Karte h

col⁰ col¹ col² col³



every row → 4 star print



```
for (int i=0; i<4; i++)
```

{

```
for (int j=0; j<4; j=j+1)
```

{

```
    cout << "*";
```

}

```
cout << endl;
```

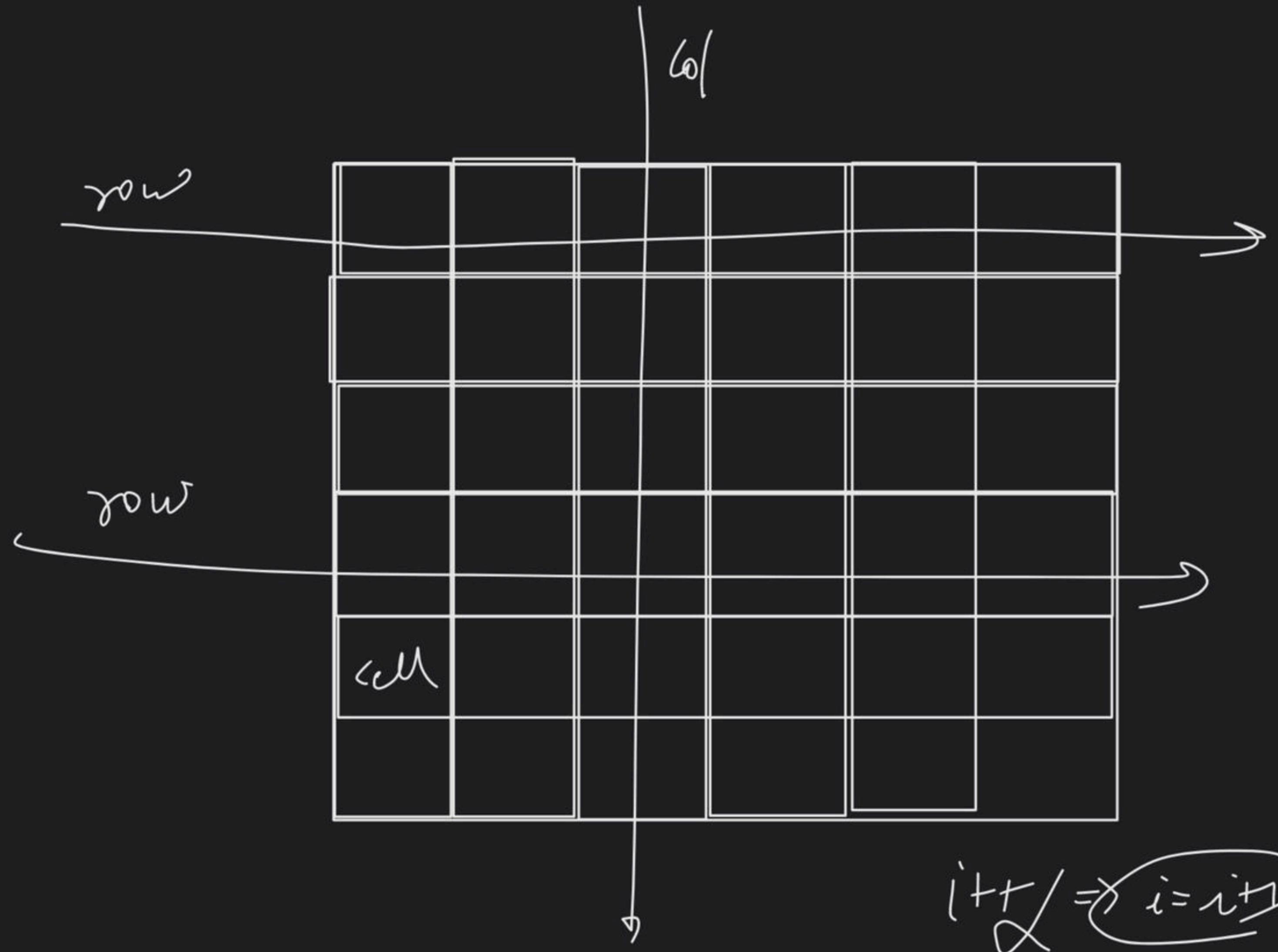
}

Y → row

Logic → Y J Lax

(out << ~~row~~)





→ Rectangle

① $\text{Row} = 3$ → Outer loop → 3

② $\text{Row } 0$ → 5 star
 $\text{Row } 1$ → 5 star
 $\text{Row } 2$ → 5 star

0 → 3

row 0 → ★ ★ ★ ★ ★
row 1 → ★ ★ ★ ★ ★
row 2 → ★ ★ ★ ★ ★

Inner loop → 5 star print

$i+1$
 $j = i+1$

5 square

```

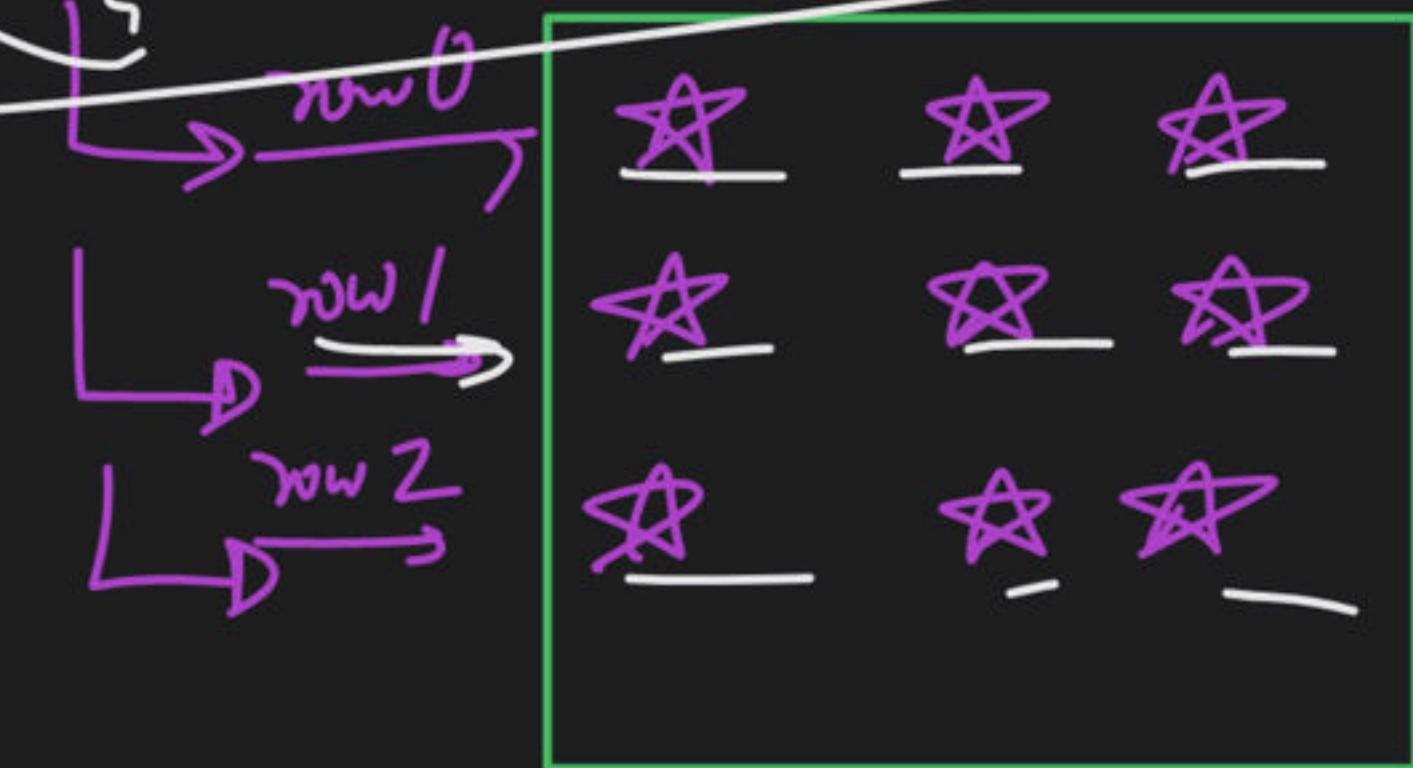
for (i=0; i<3; i++)
    for (j=0; j<3; j=j+1)
        cout << s;
        cout << endl;
    }
}

```

① $\text{row} = 3$

Outer
loop

$\rightarrow 3 \text{ times}$



②

$\text{row} 0 \rightarrow 3 \text{ stars}$

$\text{row} 1 \rightarrow 3 \text{ stars}$

$\text{row} 2 \rightarrow 3 \text{ stars}$

inner
loop

inner loop $\rightarrow 3 \text{ stars}$

~~Rectangle~~

(1) $\text{row} = 3$

☆	☆	☆	☆	☆	☆
☆	☆	☆	☆	☆	☆
☆	☆	☆	☆	☆	☆

← row 0
← row 1
← row 2

(2)

row 0 → 6 star

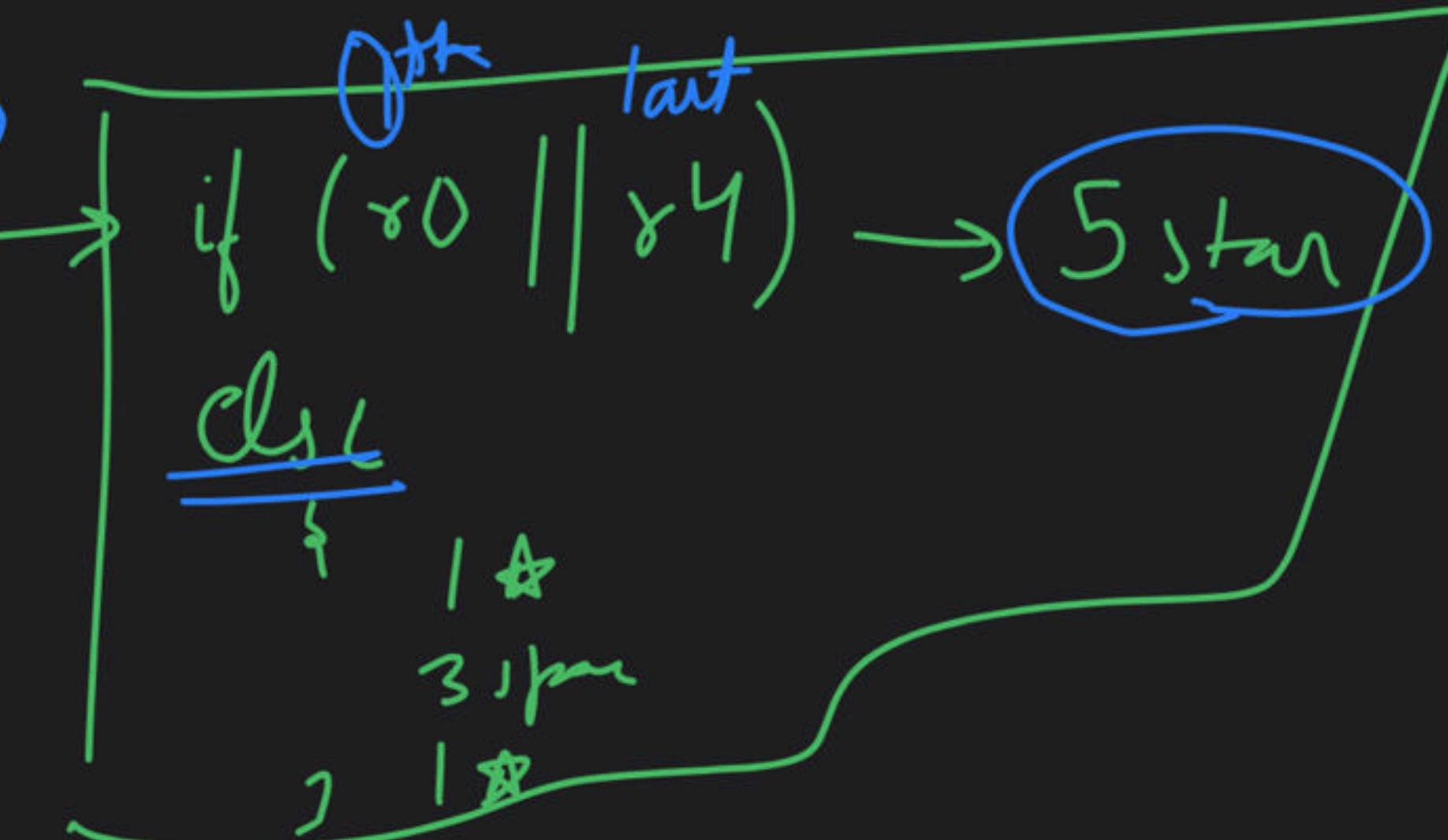
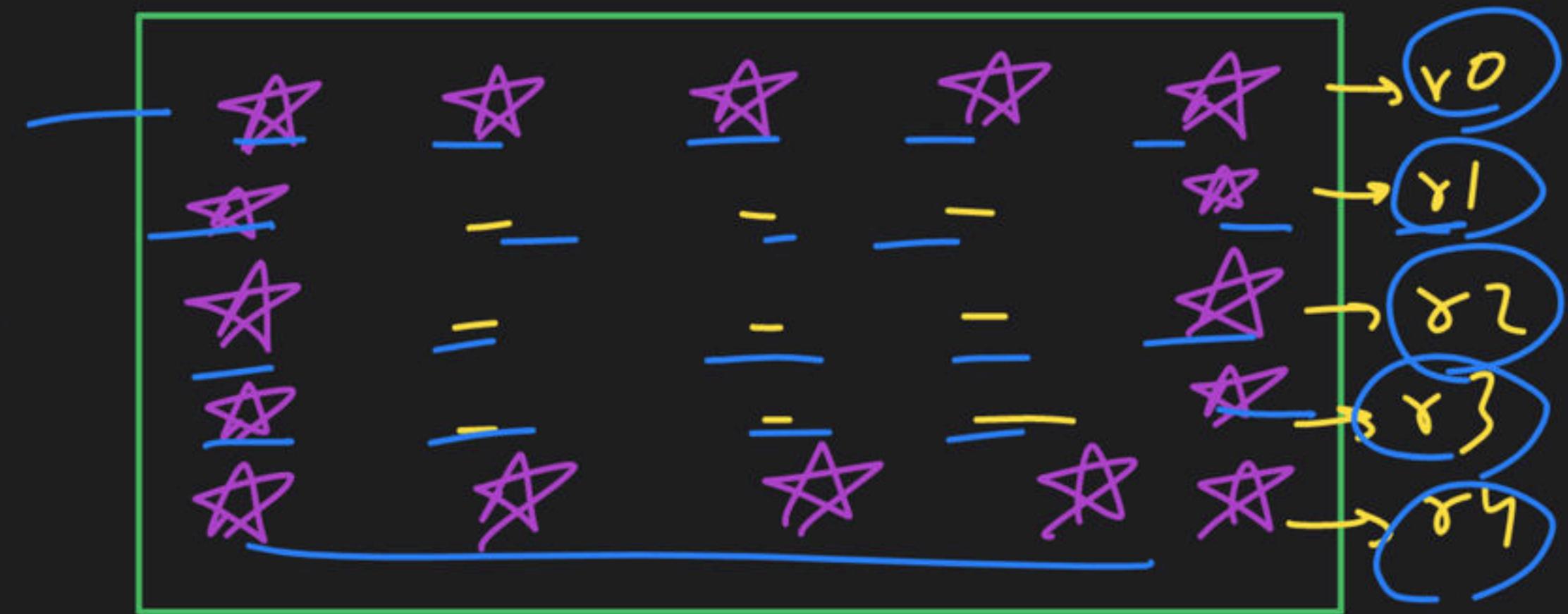
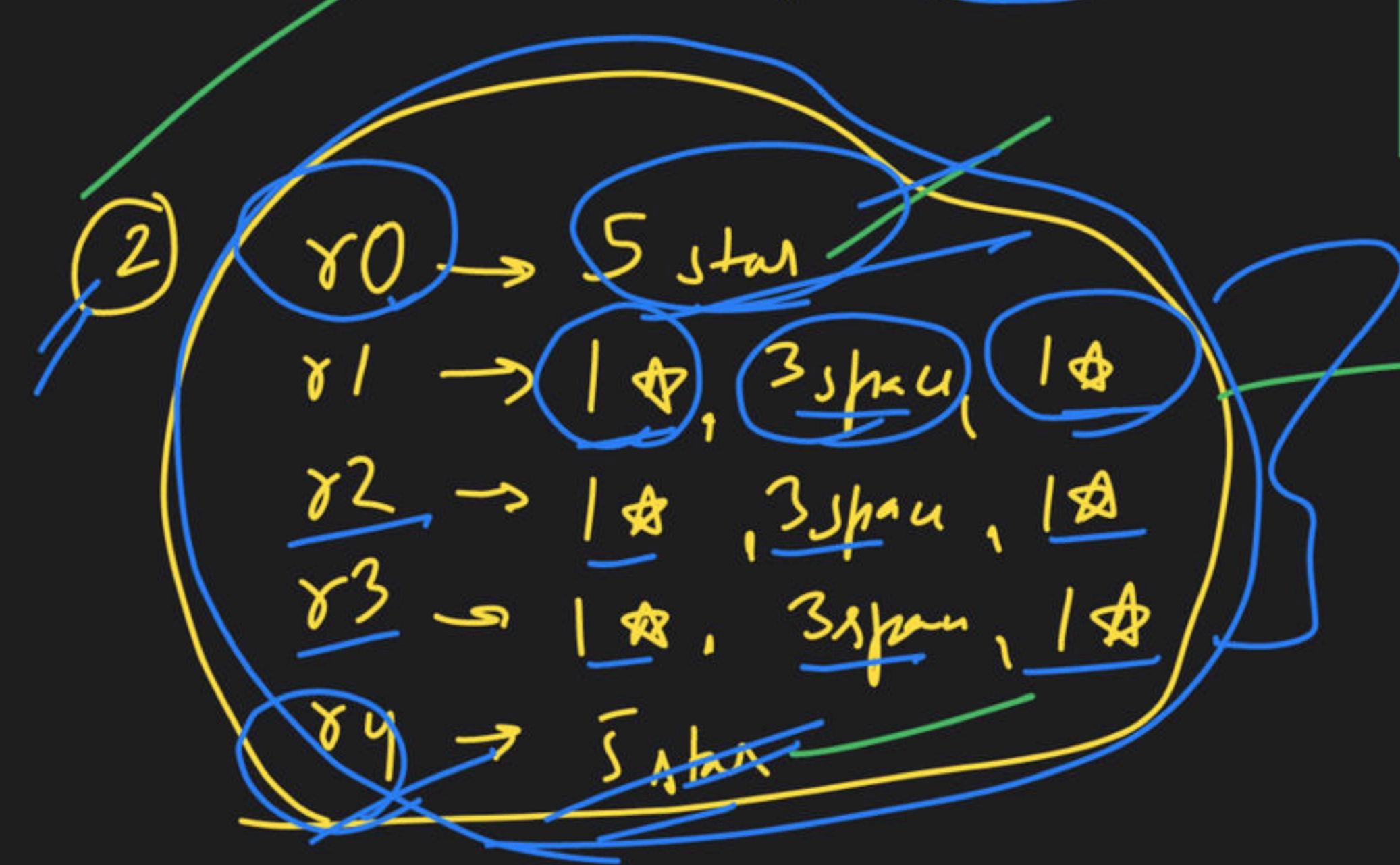
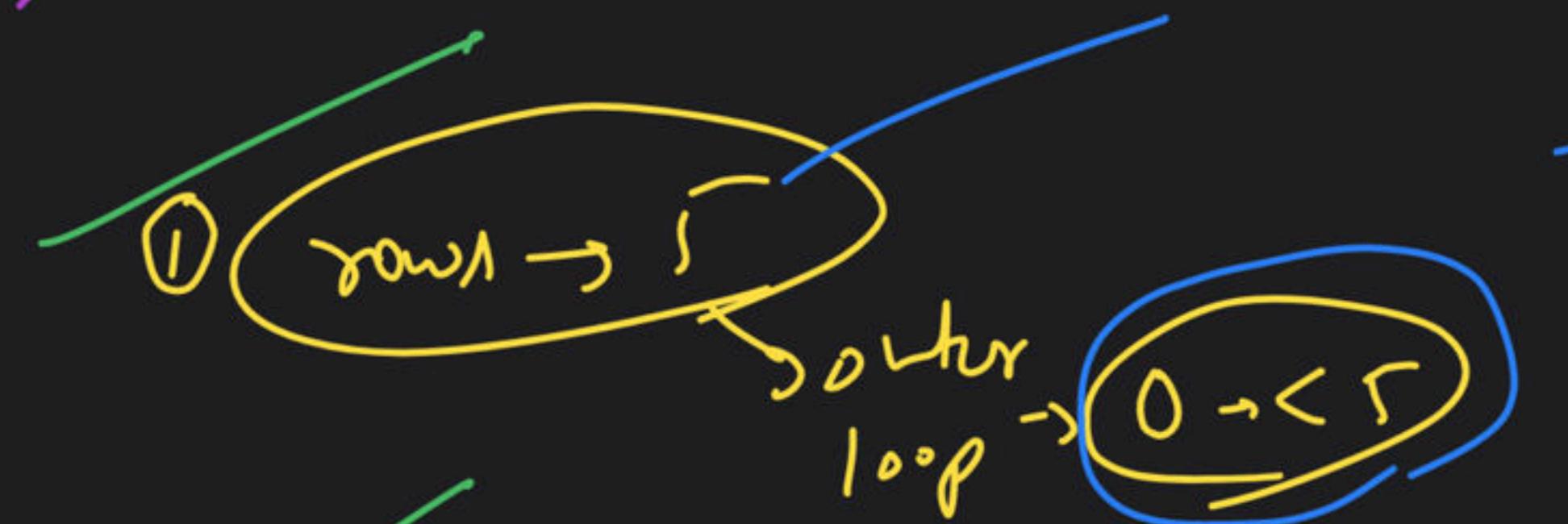
row 1 → 6 star

row 2 → 6 star

inner loop
row → print
6 star

```
for (i=0; i<3; i=i+1)
{
    for (j=0) j<6) j=j+1)
    {
        out << " ";
    }
    out << endl
```

Hollow Rectangle





1

~~years~~ → 8 years

```
for (int i=0; i<8; i++)
```

(2)

junc loop

```
for (int col=0; col<6; col+=1)
```

\rightarrow $xD \rightarrow$ (start)

γ

Y

2

1

1

1

~~Y =~~ \rightarrow 8 stars

~~Count <~~

if (collide)

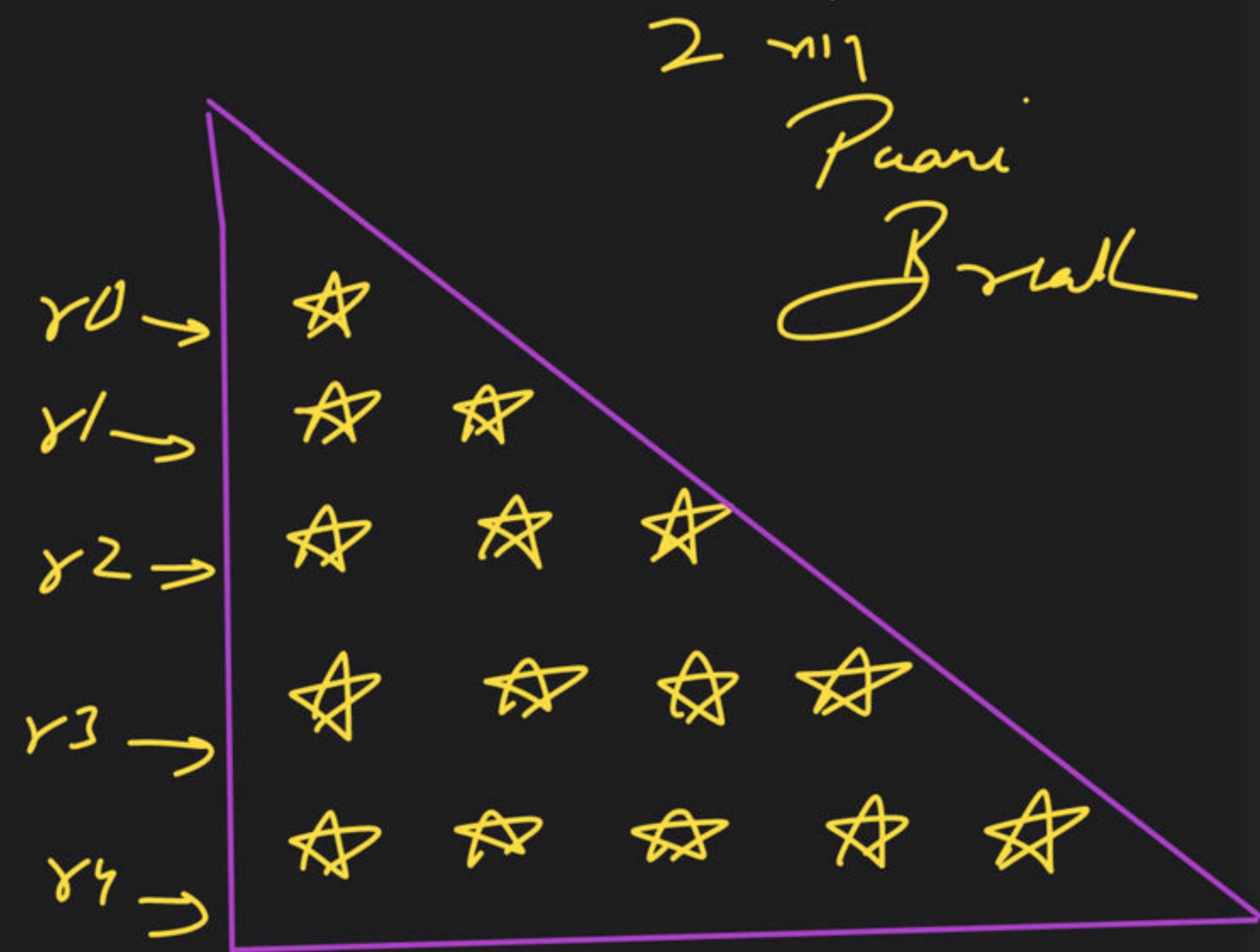
(YD) || (Y7)

cont'd

Half Pyramid

rows = 5

```
for (row=0; row<5; row++)
```

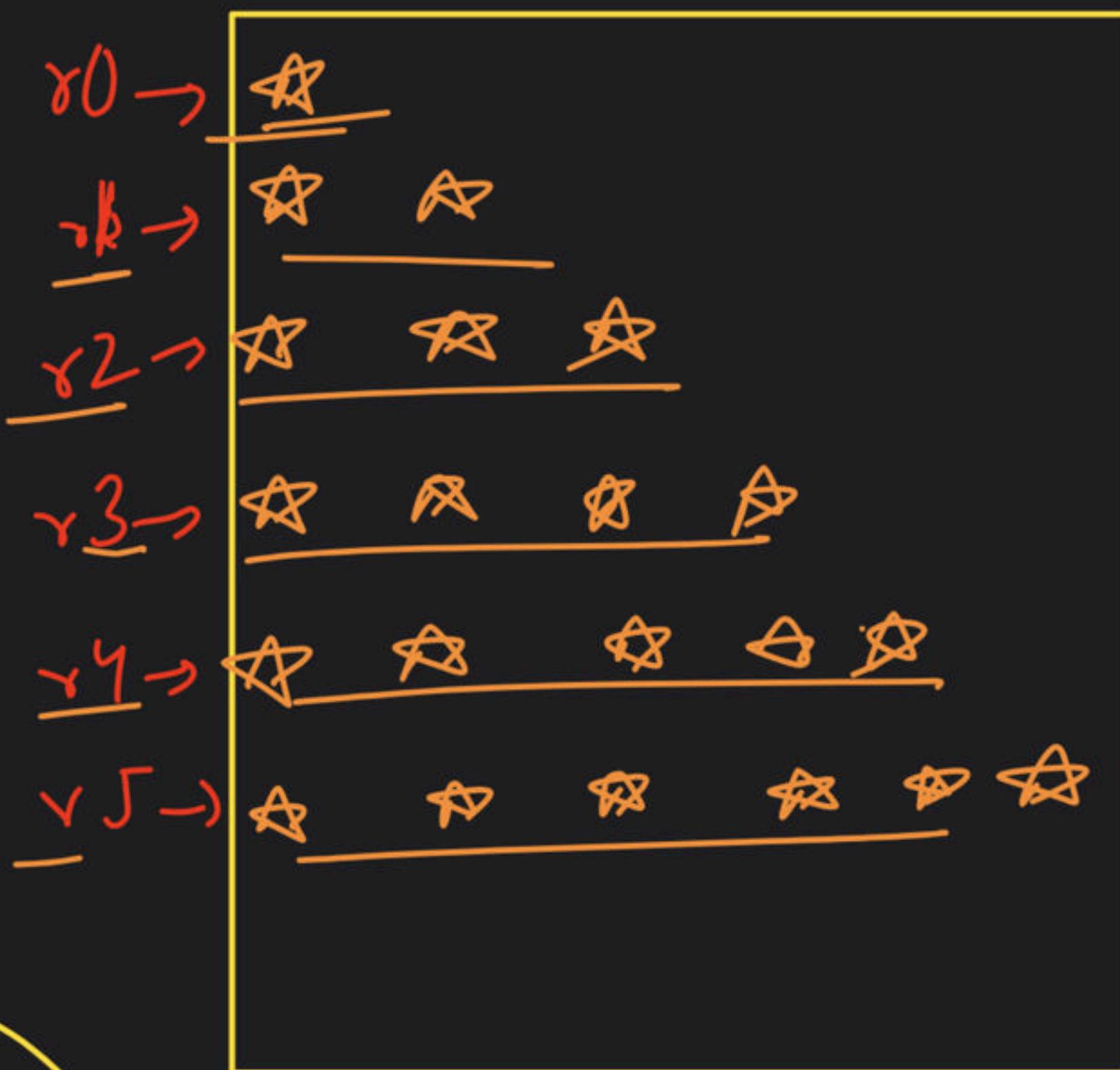


① flows count = 6

```
for (row = 0; row < 6) row++
```

②
 $\gamma_0 \rightarrow | \star$
 $\gamma_1 \rightarrow 1 \star 2 \star$
 $\gamma_2 \rightarrow 1 \star 3 \star$
 $\gamma_3 \rightarrow 1 \star 4 \star$
 $\gamma_4 \rightarrow 1 \star 5 \star$
 $\gamma_5 \rightarrow 1 \star 6 \star$

BOOW + 1
 Y0L



down to

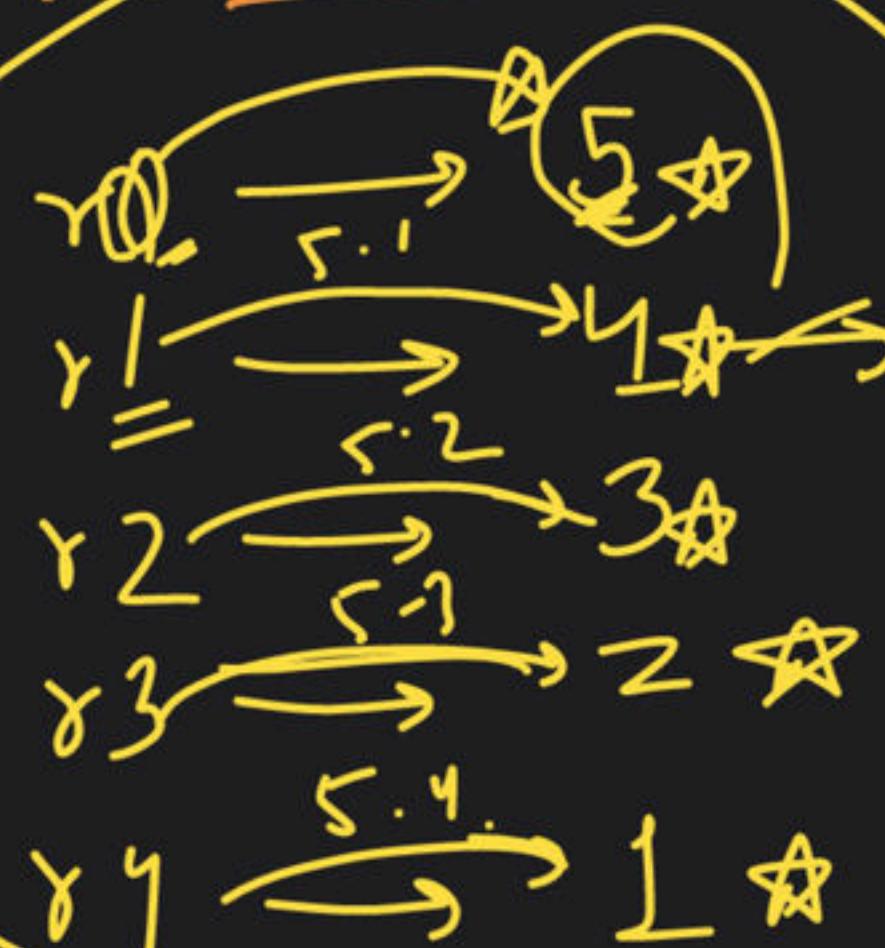
+

stay

Inverted Half Pyramid:-

(1) total rows $\rightarrow h = 5$

$\text{if } row = 0; row < n; row = row + 1$



$n - row$

$n - 5$
 $row = 0$

$n + row$
 $n - row$



o/p

$n - 5$
 $n - row$

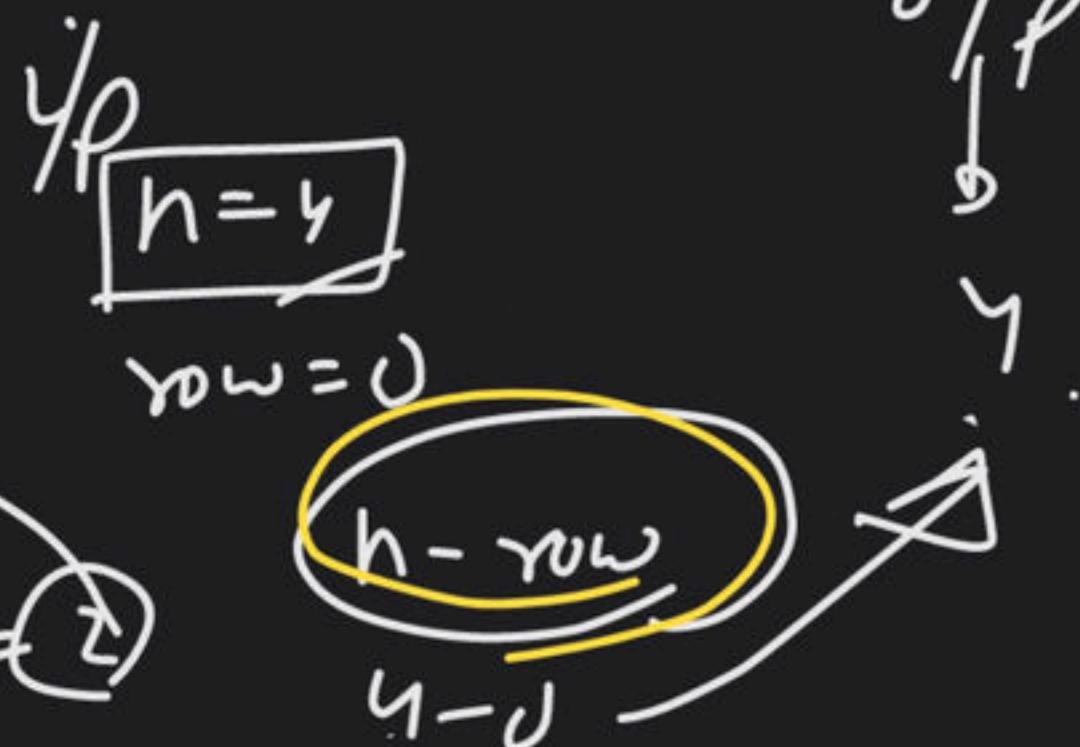
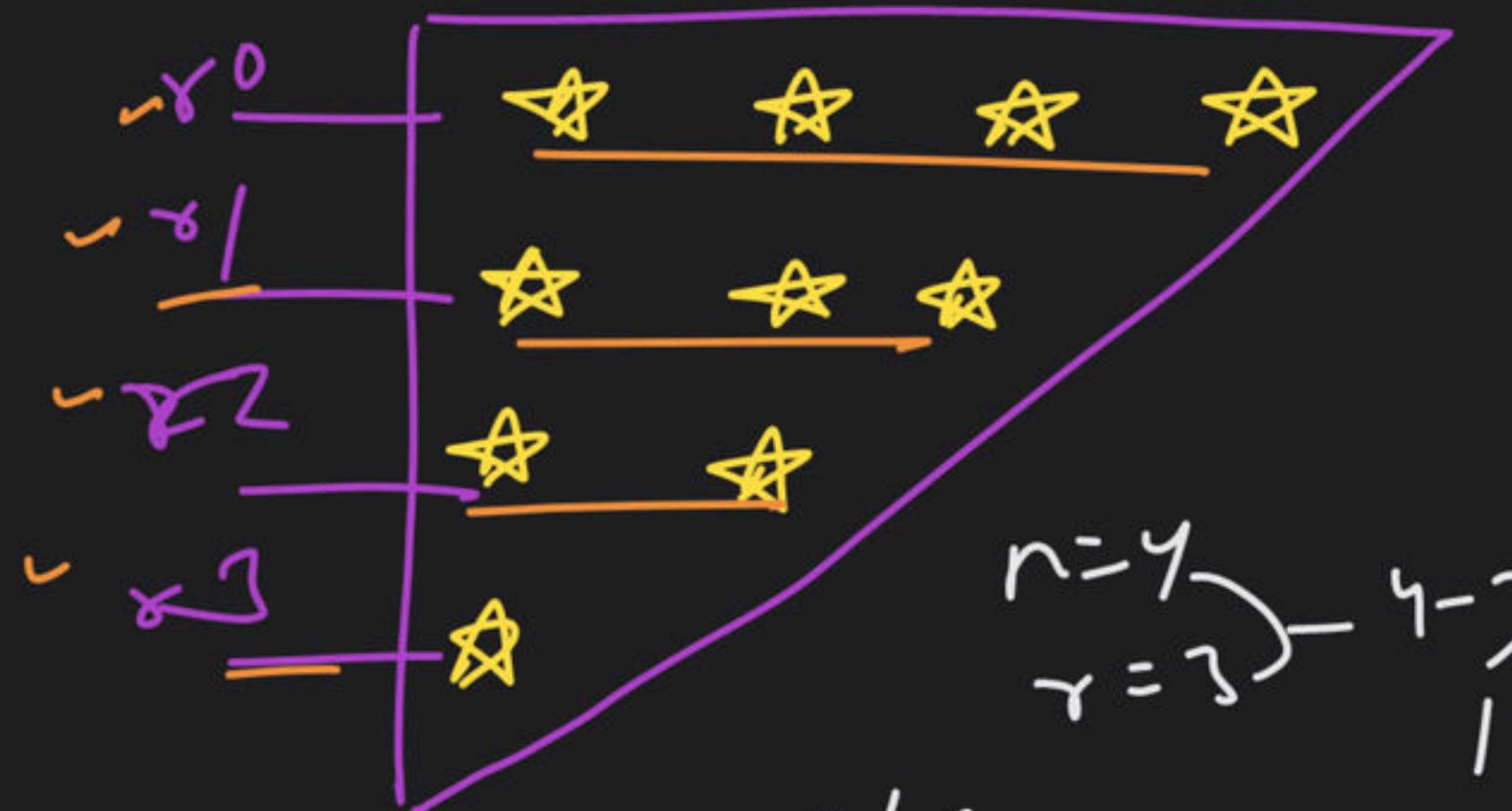
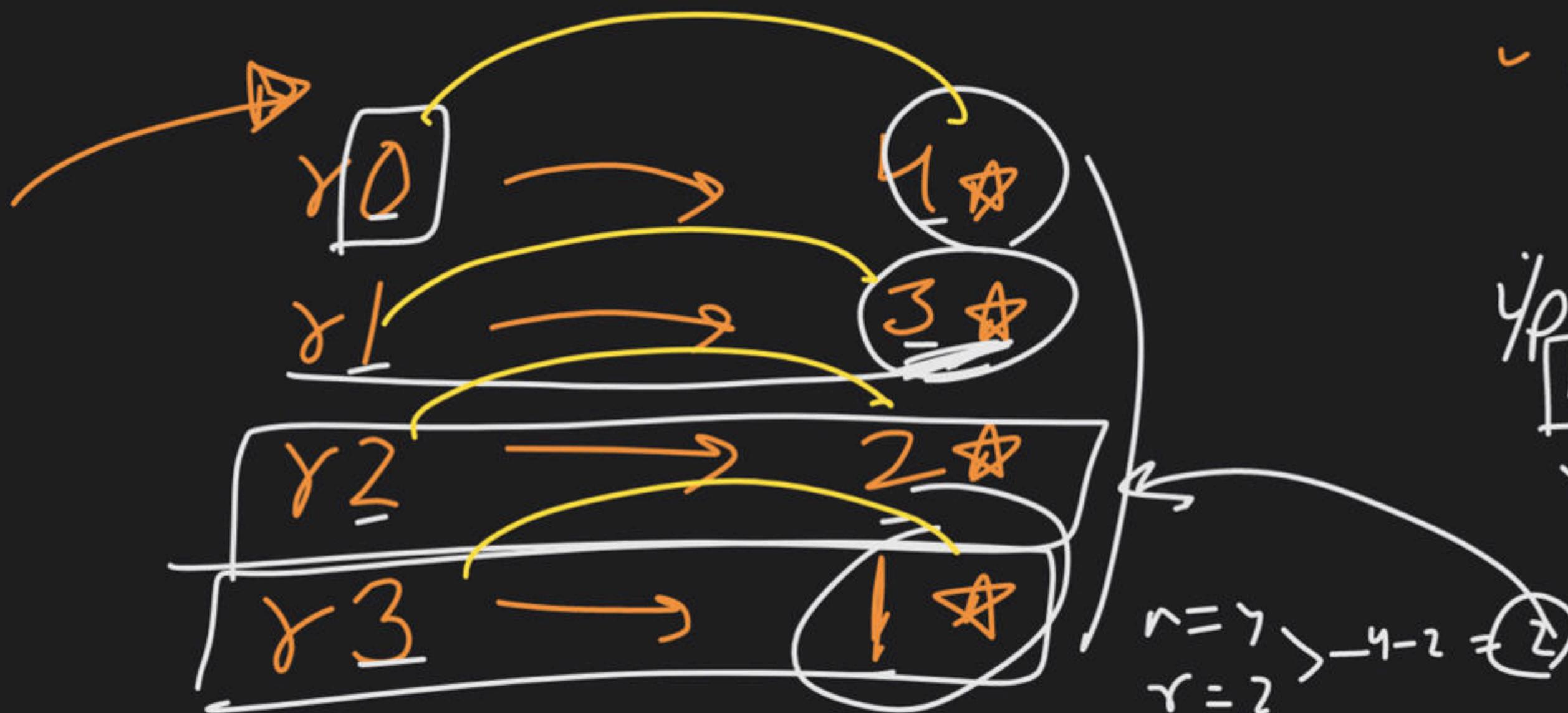
$$r = 4 \\ \gamma_{row} \\ n - 1 \rightarrow 3$$

$$n + \gamma_{row} = 4 + 1 = 5$$

total rows = $n = 4$

Outer loop

```
for (row = 0; row < n; row = row + 1)
```



Numeric Half Pyramid :-

(0 → 1)
 (1 → 2)
 (2 → 3)
 (3 → 4)
 (4 → 5)

①

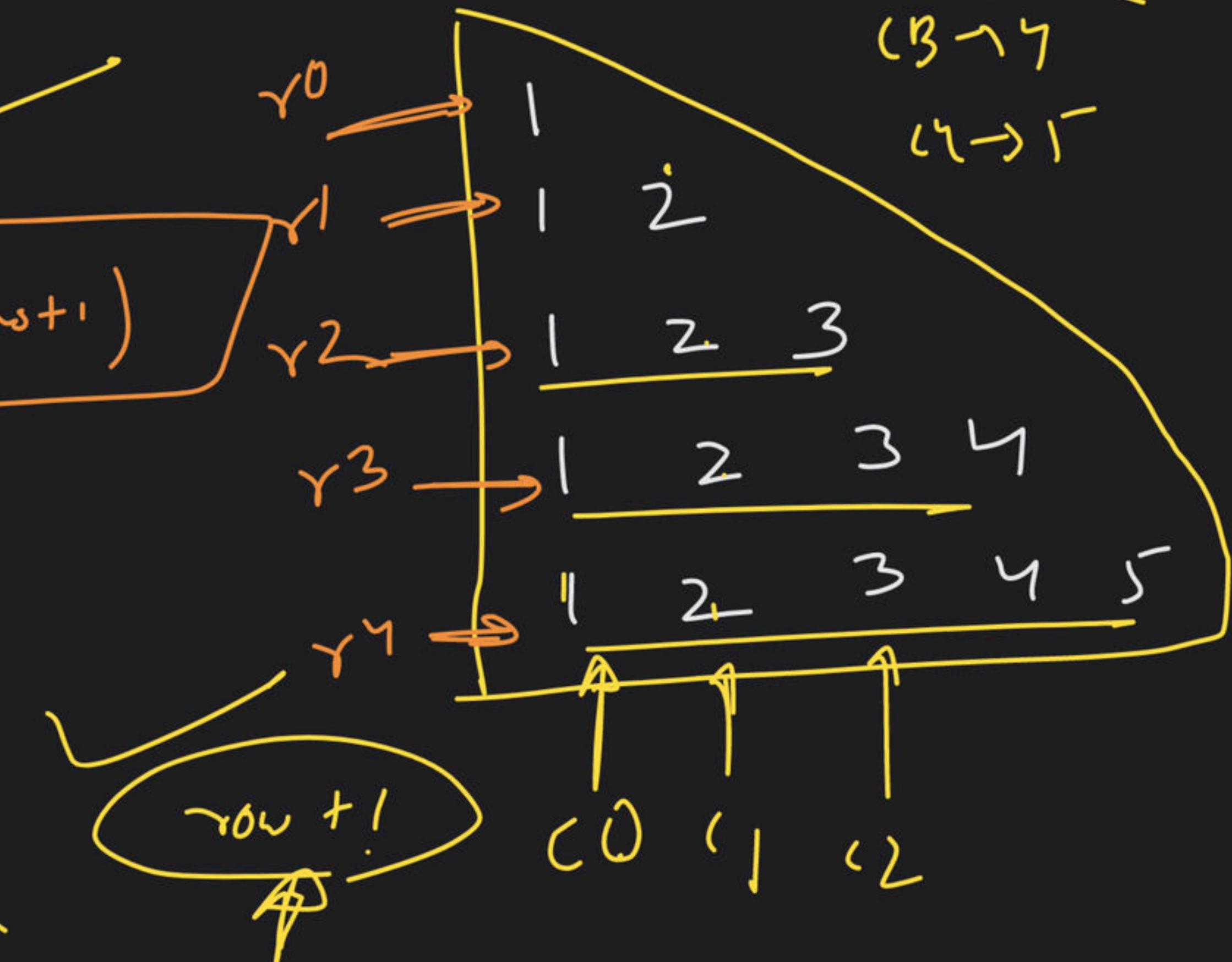
total

$$\rightarrow n = 5$$

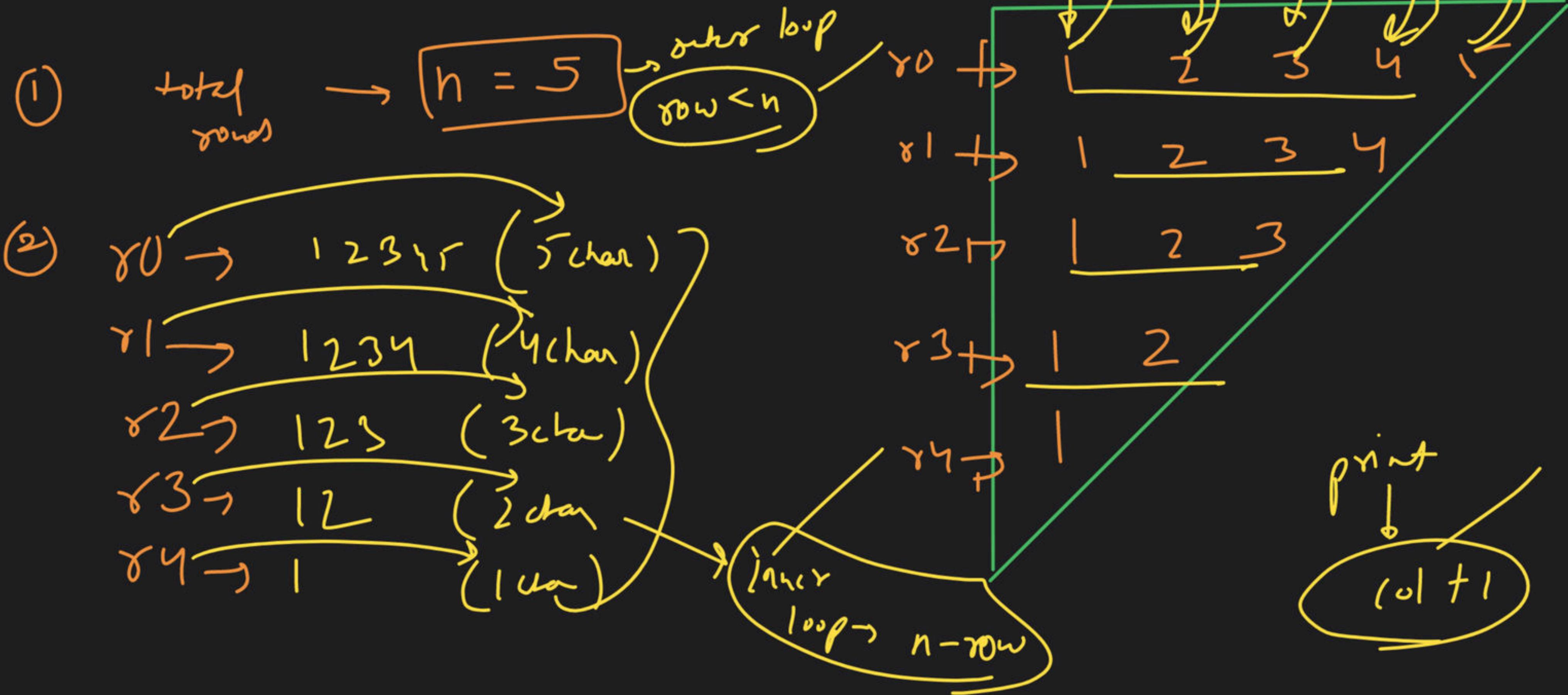
for ($yow = 0; yow < n; yow = yow + 1$)

②

$y^0 \rightarrow 1 \rightarrow (1 \text{ char})$
 $y^1 \rightarrow 1 2 \rightarrow (2 \text{ char})$
 $y^2 \rightarrow 1 2 3 \rightarrow (3 \text{ char})$
 $y^3 \rightarrow 1 2 3 4 \rightarrow (4 \text{ char})$
 $y^4 \rightarrow 1 2 3 4 5 \rightarrow (5 \text{ char})$



Inverted Numeric Half Pyramid



~~Discord~~

~~3 day~~

Ticketing System

code help

fairly an issue

bottom right

click

Issue
write down

Raise a ticket / Issue