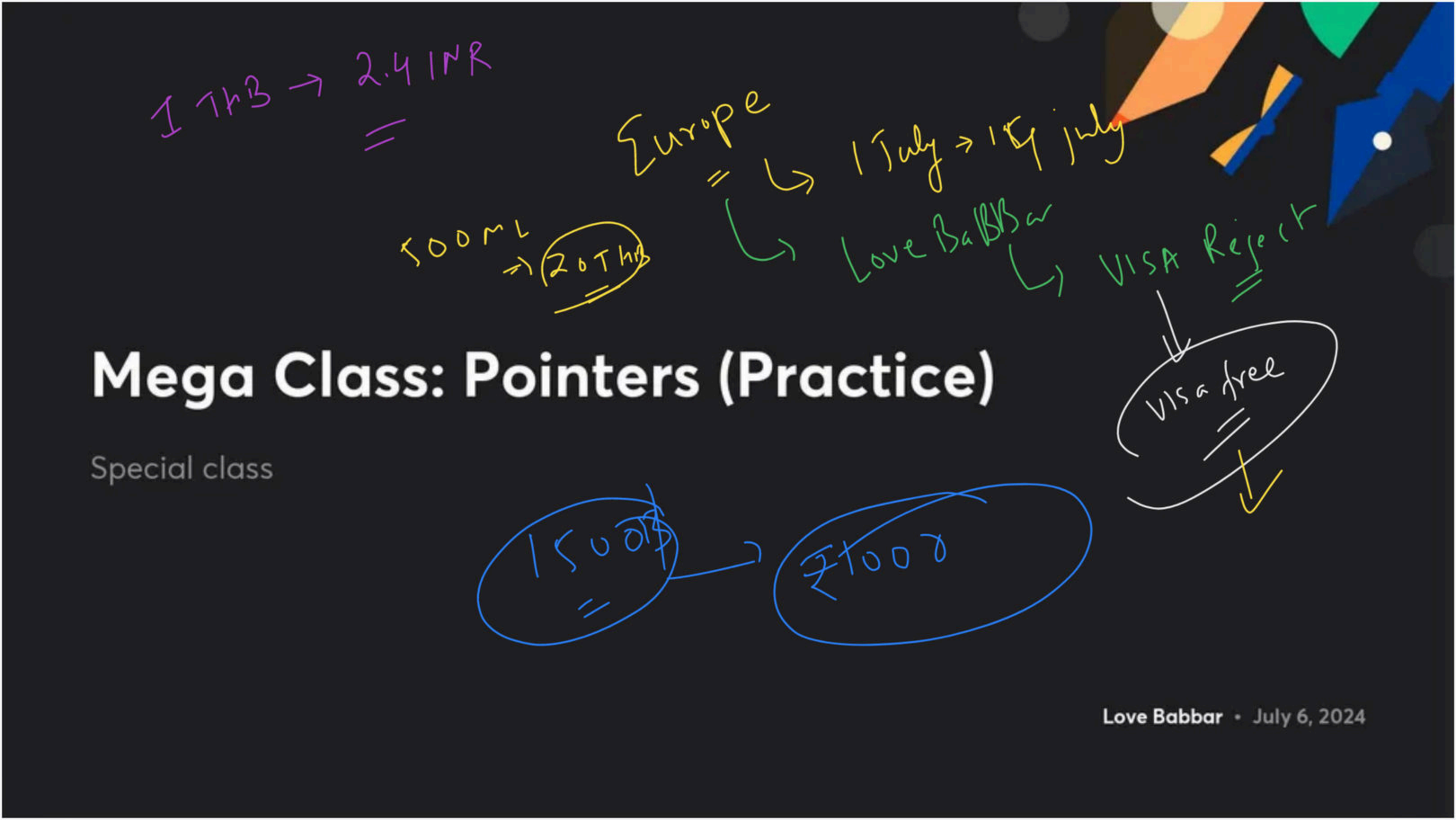
Mega Class: Pointers (Practice)

Special class



Love Babbar • July 6, 2024

3 Tone Exp :=

① Cafe Bubai → IND, PAK → IND

② Dish---

Pointer Mega Session → 3-4 hrs

=

⇒ Q.1)

```
int i = 3
int *j;
j = &i;
```

⇒ O/P

i → 3

&i → 303

j → 303

&j → 404

*(&i) → 3

*j → 3

(2) i = 3 , *j , **k ;

j = &i ; k = &j ;

&i → 303

j → 303

*k → 303

&j → 404

k → 404

&k → 505

j → 303

K → 404

i → 3

*(&i) → 3

*j → 3

**k → 3

(3)

```
void Swap (int *x, int *y)
{
    int t;
    t = *x;
    *x = *y;
    *y = t
}
```

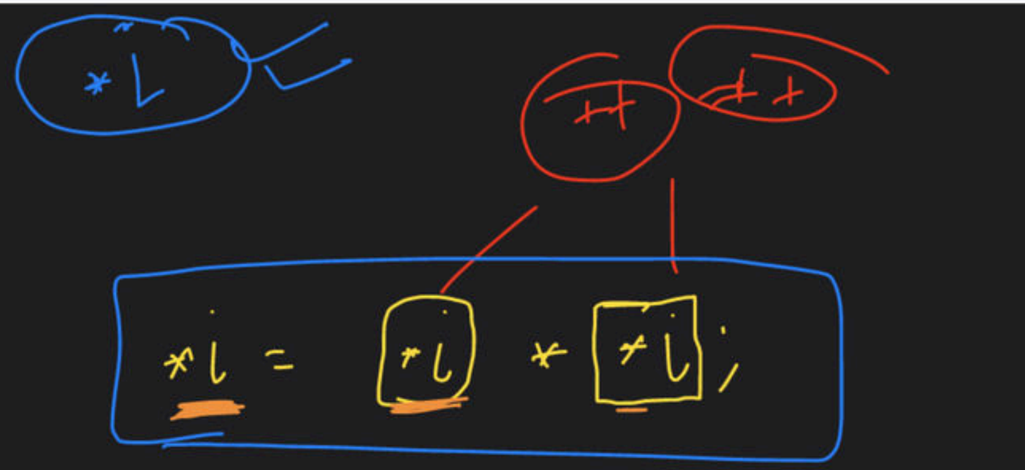
```
main()
{
    int a = 10
    int b = 20;
    Swap(&a, &b);
}
```

ERROR

O/P a = b =

(3)

```
junk(int *i, int *j)
{
    *i = *i * *j;
    *j = *j + *j;
}
```



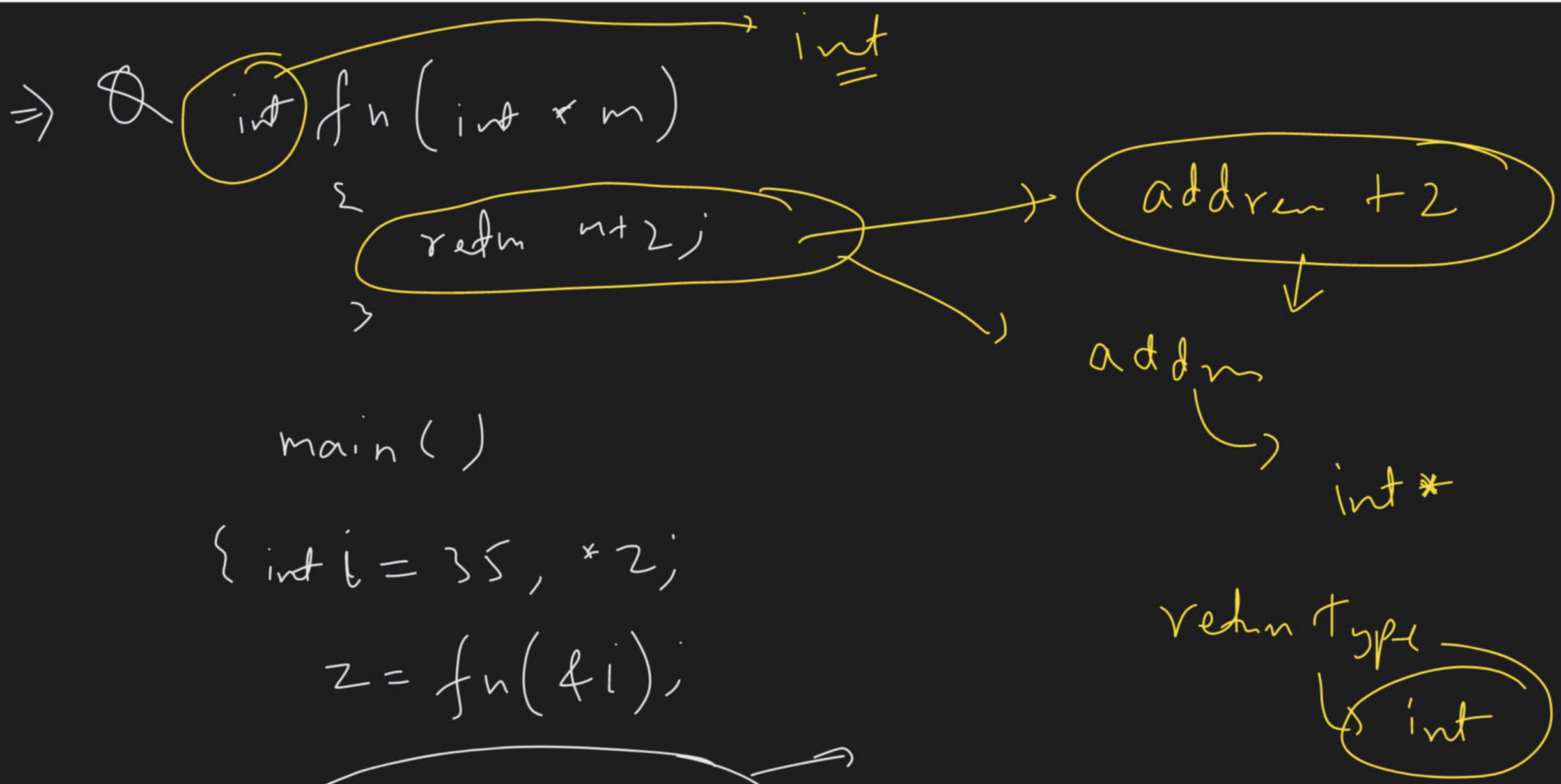
*i = 5 * 5

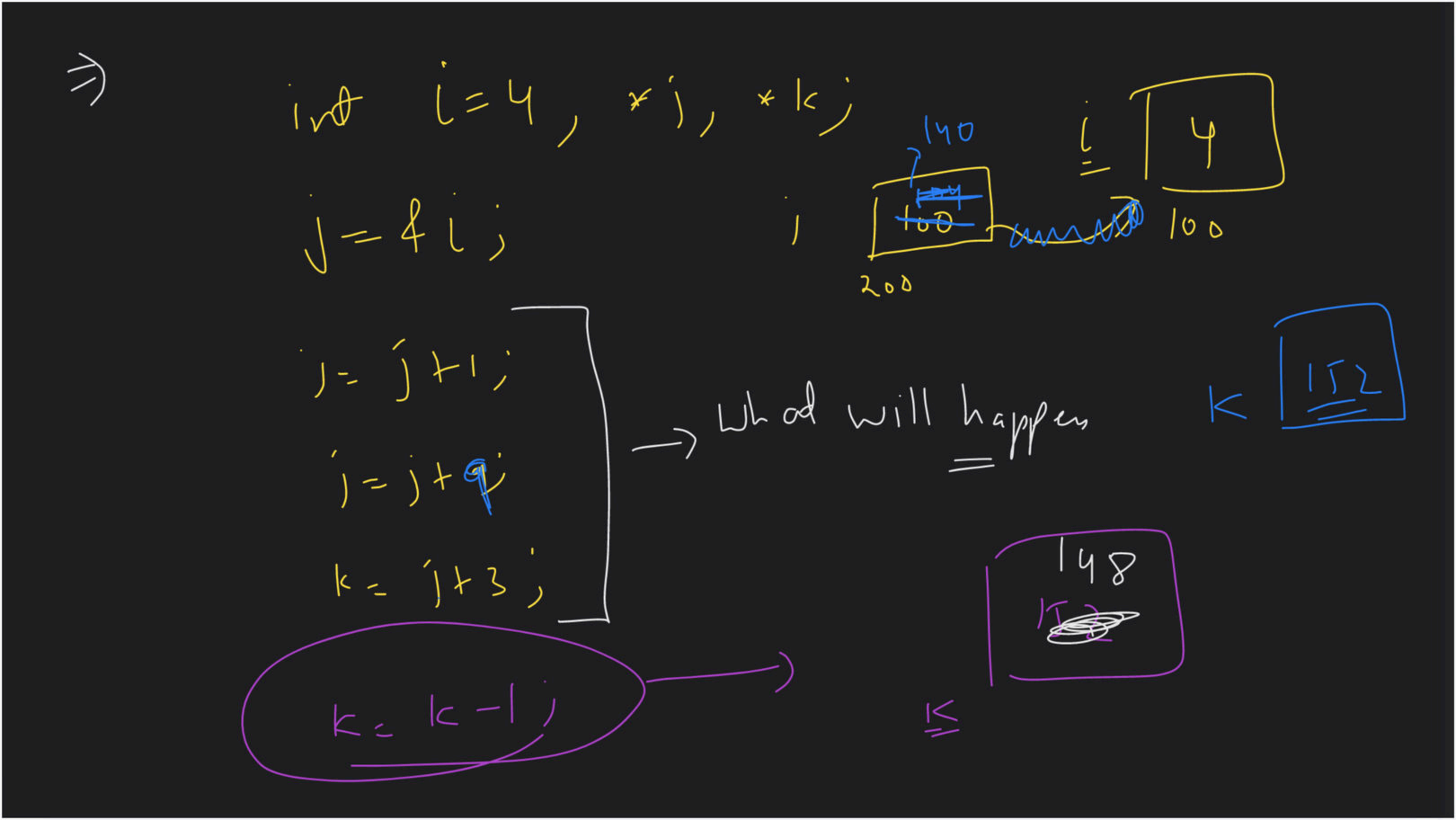
i = 5, j = 2

junk(&i, &j);

↳ o/p →

i = 25 j = 4


int
⇒ Q int fn(int *m)
{
return m+2;
}
address +2
addm
int *
main()
{ int i=35, *z;
z = fn(&i);
printf("%u", z);
}
return type
int


int i=4, *j, *k;
j=&i;
140
i
4
100
200
j=j+1;
j=j+9;
k=j+3;
What will happen
k
152
k=k-1;
148
152
<=

Q

```
int num[] = { 24, 34, 12, 44, 56, 17 };
int i, *j;
```

100 104 108

```
j = &num[0];
```


```
for( i=0; i<=5; i++)
{
    cout << j;
    // *j;
    j++;
}
```

100 , 24

104 , 34

108 , 12

112 , 44

. . .

Q `int x[3][5] = {{1,2,3,4,5},{6,7,8,9,10},{11,12,13,14,15}};`

~~`int *n = &x;`~~ `int *n = &x[0][0];`

`*(*(x+2)+1)` => 12

`*(*x+2)+5` => 8

`*(*(n+1))` => 6

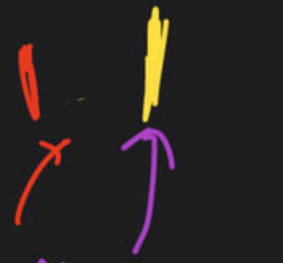
`*(*(x)+2)+1` => 4

`*(*(n+1)+3)` => 9

`*n` ==\ ⟶

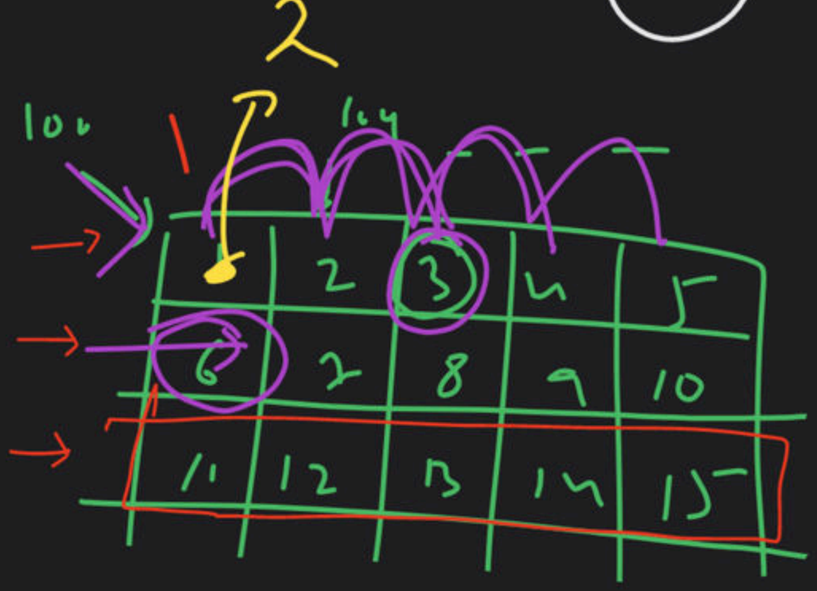
`*(n+2)` ⟶ 3

`(*(n+3)+1)` ⟶ 5

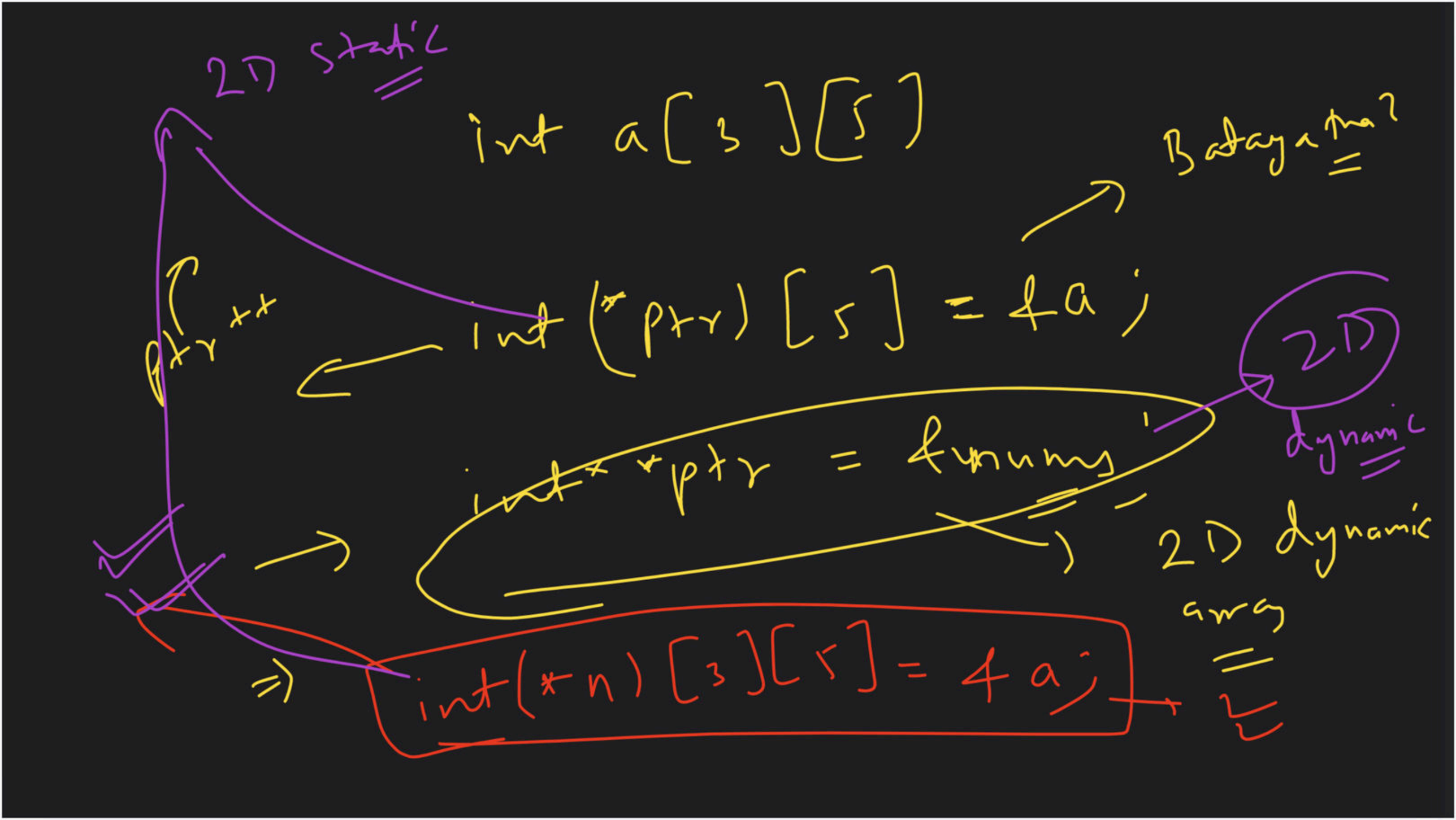


`++*n` ⟶ 3

`*(n+5)+1` ⟶ 7



2


2D static
int a[3][5]
Batayega?
ptr++
int (*ptr)[5] = &a;
2D
dynamic
int **ptr = func();
2D dynamic
arg
int (*n)[3][5] = &a;

int x[3][5];

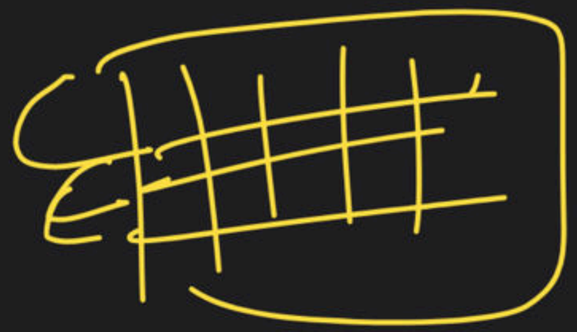
n++

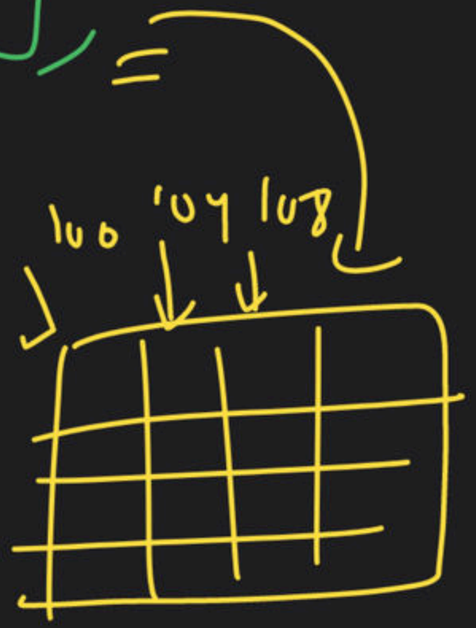
① 1 dabba → int *n = &x[0][0];

② Pointer to array of 5 integer → row

int (*n)[5] = x

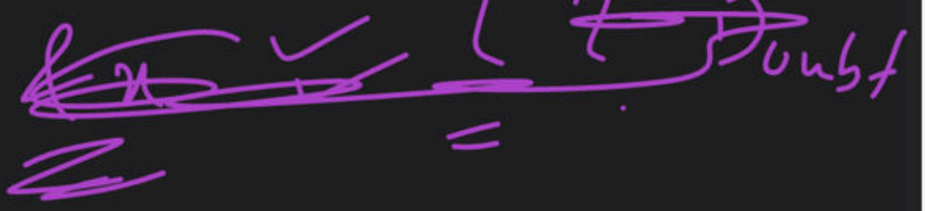
&x[0]



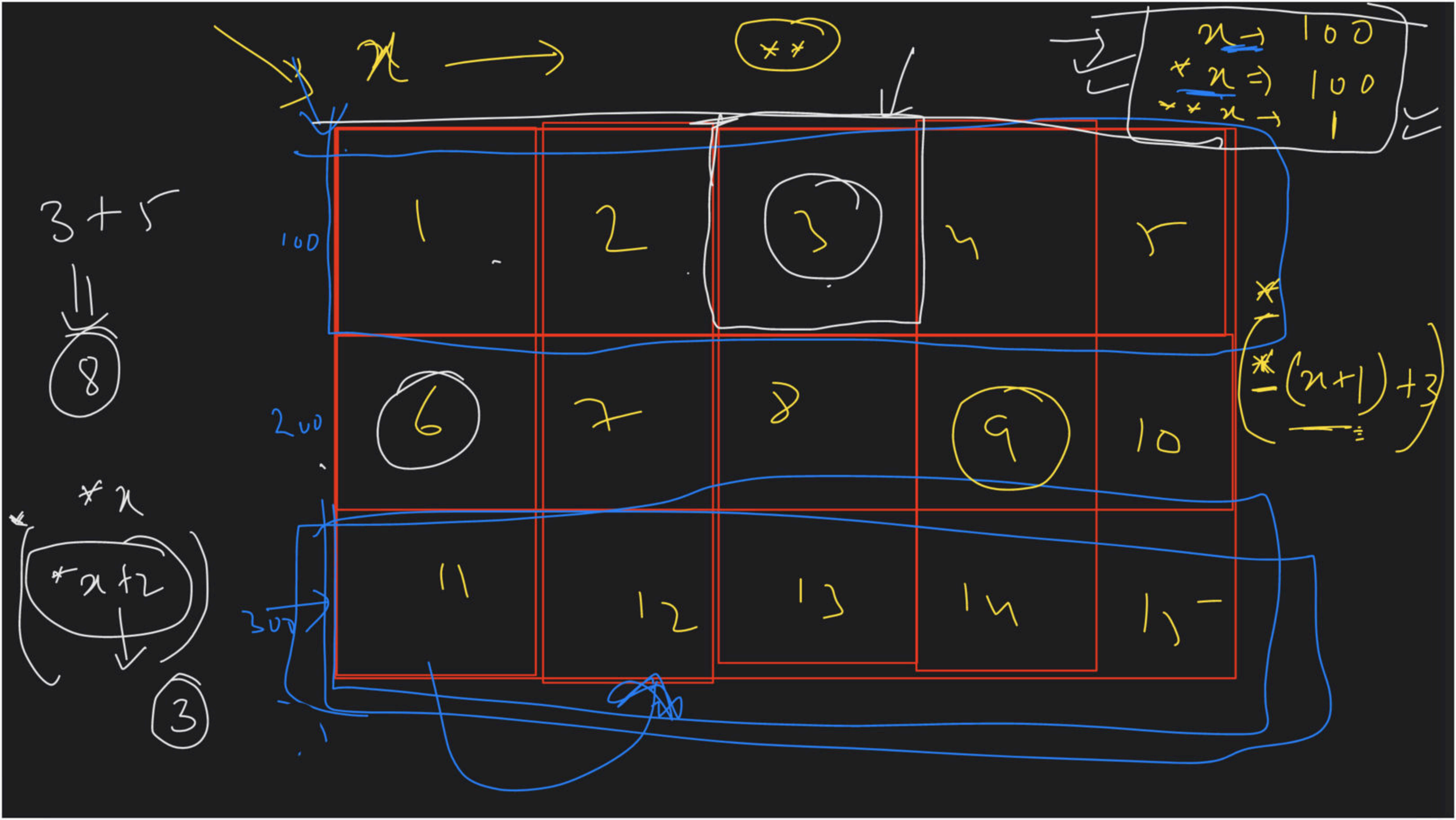


③ Whole arrg ptr. → Ptr. to entire arrg

int (*x)[3][5] = &x OR &fx;

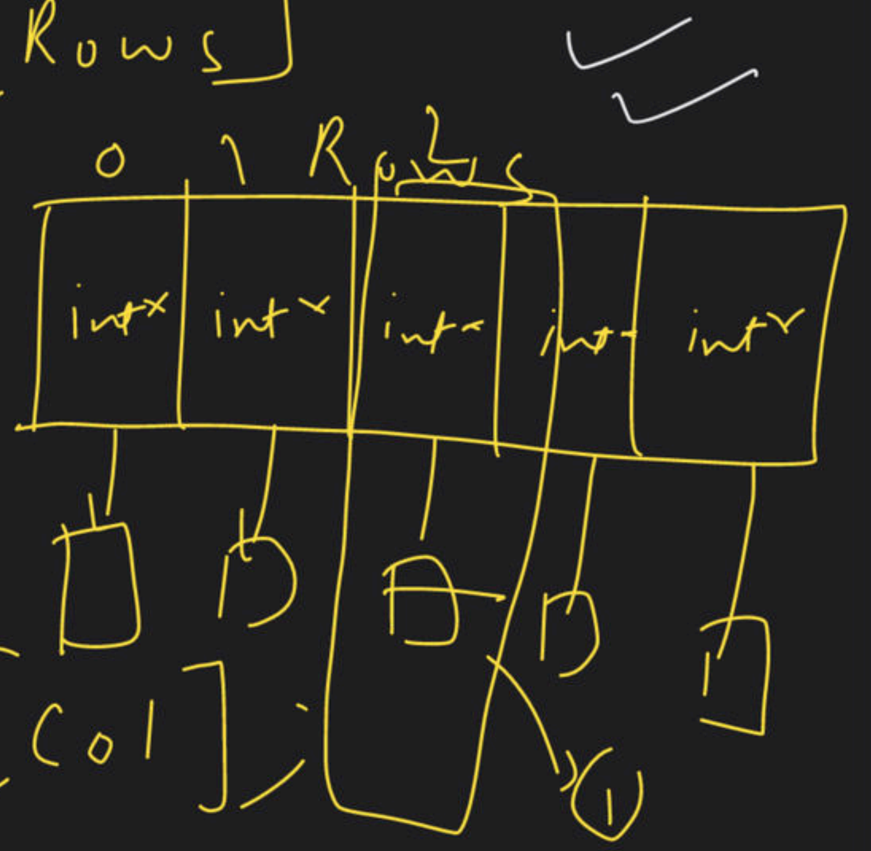


Let us C


n
**
n → 100
*n → 100
**n → 1
100
200
300
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
3+5
8
*n
*n+2
3
*(n+1)+3

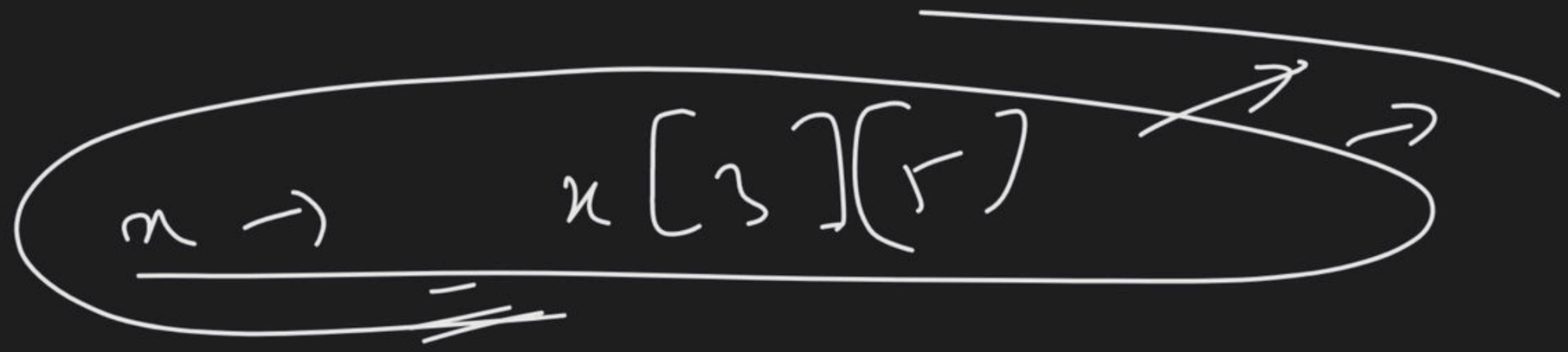
int ** a = new int*[Rows]

for loop



a[i] = new int[col];

a[2][1]


n →
x[3][r]


1 2 3 4 5

1D

100

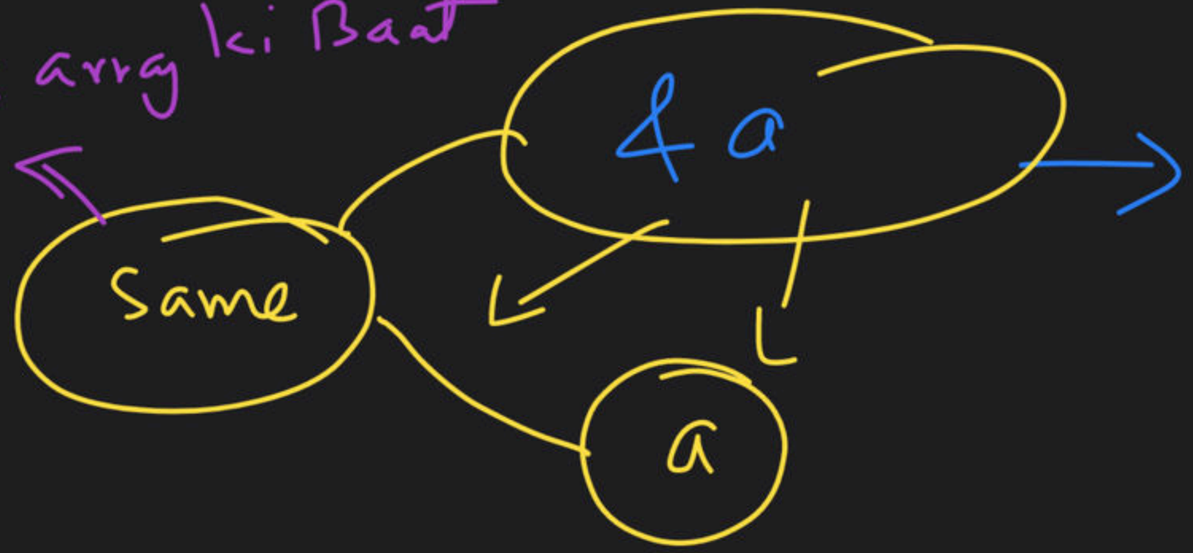
1Dabbe

int a[5] = {1, 2, 3, 4, 5};

One element address

&a[0] → add of first element

Whole arrg ki Baat



addrn of an array of size 5

2D

int a[ ][5] = { { 5 elem }
{ 5 elem }
{ }

=> (1) &a[0][0] → address of single DaBBg

(2)

a → whole array → 5 element

&a

a → addr of 5 elem 1st row