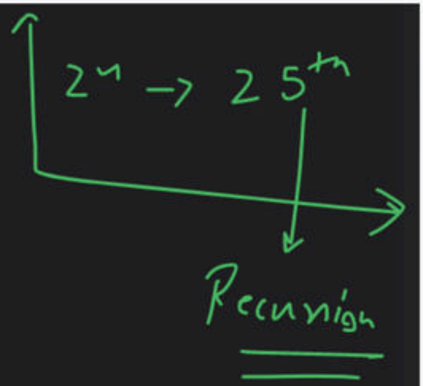
Doubt Clearing Session - Part VI

Foundation Course on Data Structures & Algorithm - III

Love Babbar • Lesson 6 • May 22, 2022

Doubt Session VI :-



Dynamic Array vs Vector

```
int * arr = new int[n]
```

```
vector<int> arr;
```

↳ size doubles

```
vector<int> arr(n)
```

```
(n, 0);
```

```
sort(arr.begin(), arr.end())
```

i/p

→ vector<int> arr(n);

(in->) arr[i]

vector<int> arr

int t; cin>>t;

arr.push_back(t);

Exam:-

→ 30 min → Revise / 1 Ques solve

Recorded

↓

1 year

→ OS / DBMS / OOPS / CN → 5th month

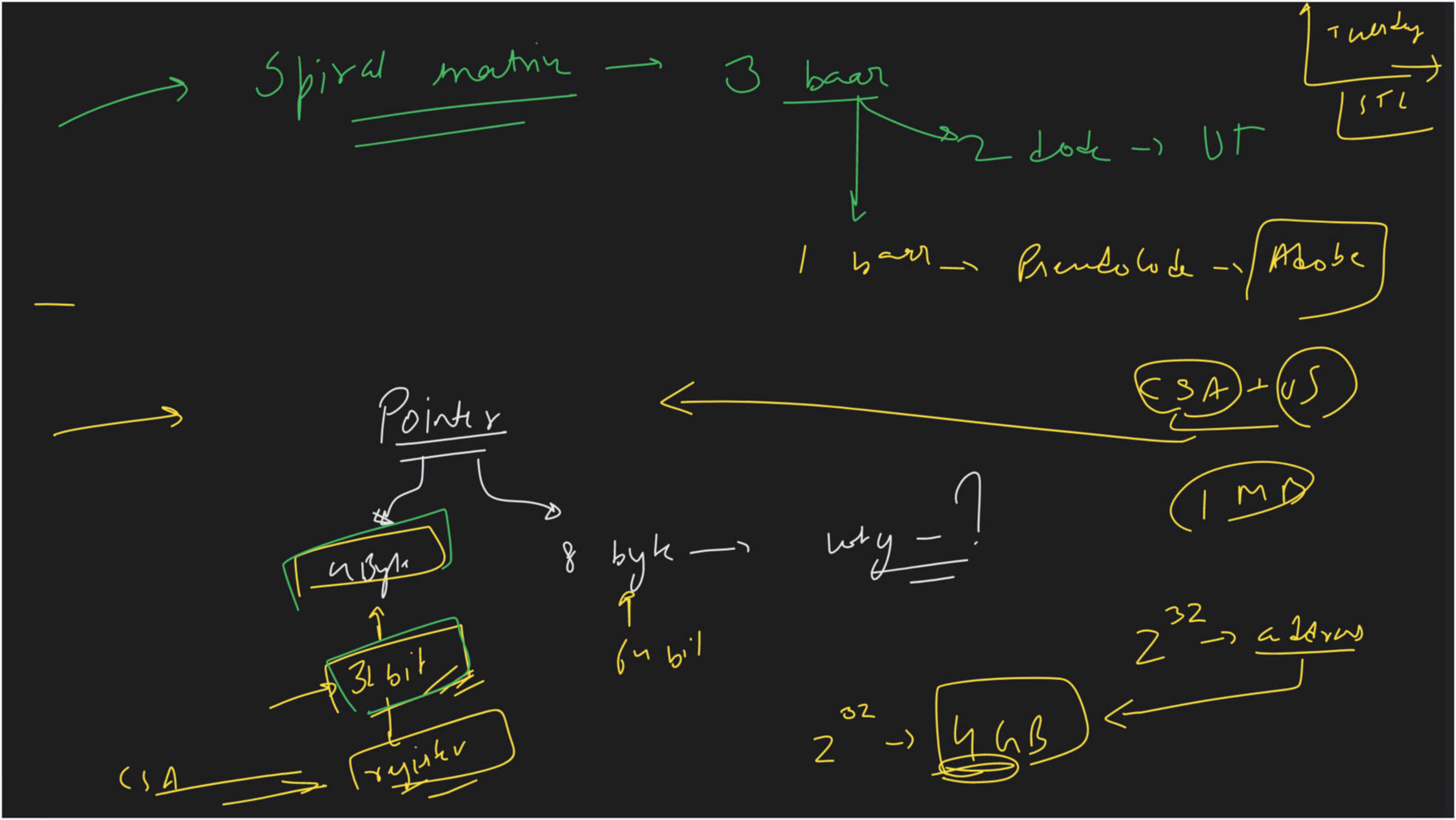
→ 1 month

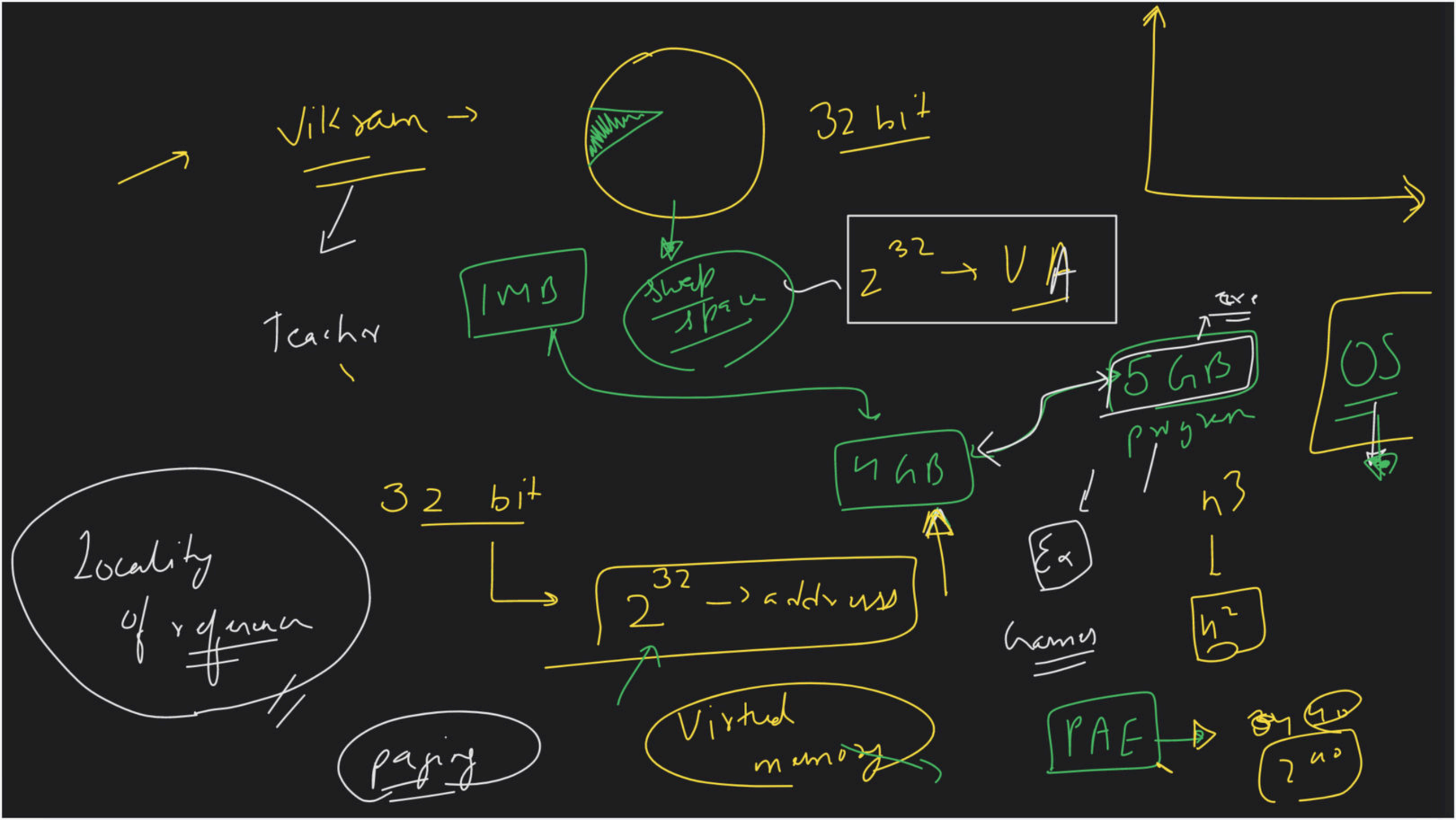
Question

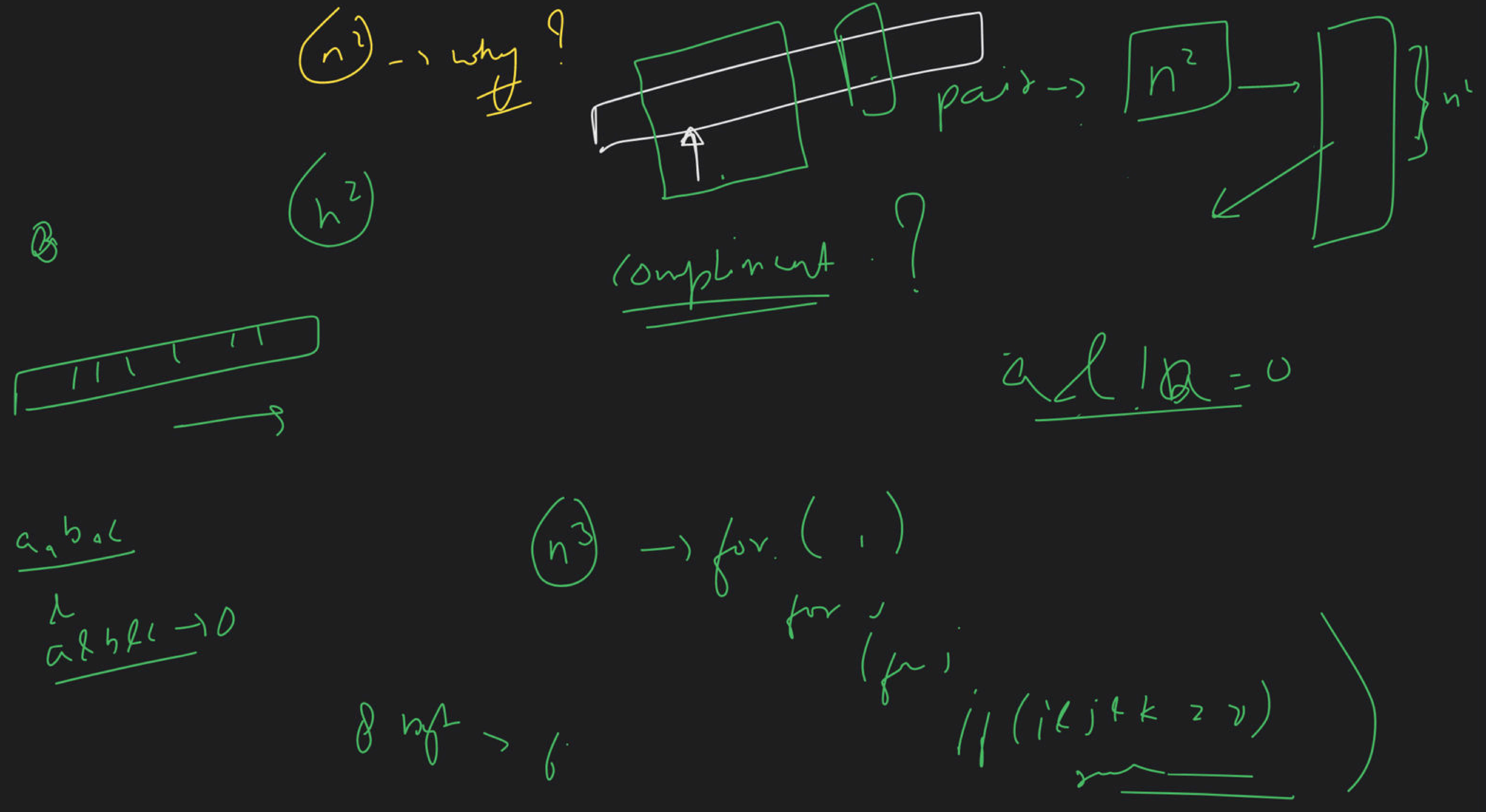
Small Course

HLD → Course

DBMS → Sponsorship

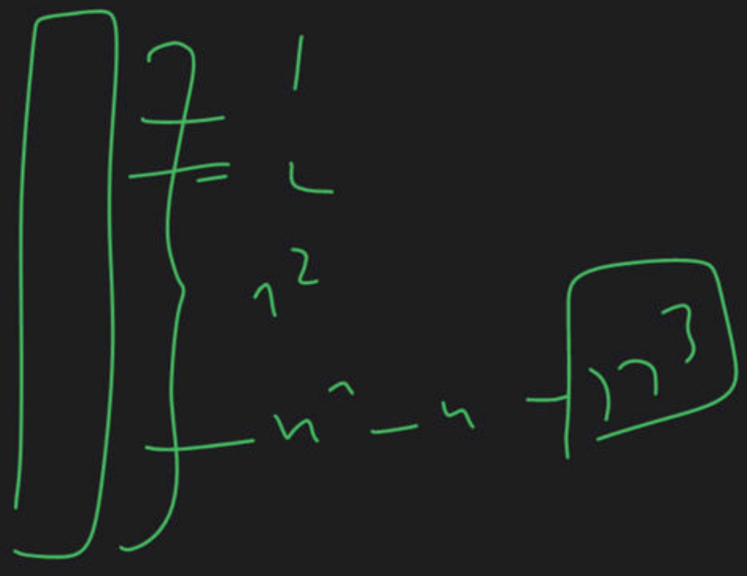

Spiral matrix → 3 baar
2 dafa → UT
1 baar → Pseudocode → Adobe
Tuesday
STL
Pointer
CSA + US
IMP
4 Byte
8 byte → kitty = ?
64 bit
32 bit
register
CSA
2^{32} → 4 GB
2^{32} → 4 address


Vikram →
32 bit
Teacher
1MB
Swap space
2^{32} → VA
5 GB
program
OS
4 GB
32 bit
2^{32} → address
Locality of reference
Games
n3
n^2
paging
Virtual memory
PAE
2^{40}



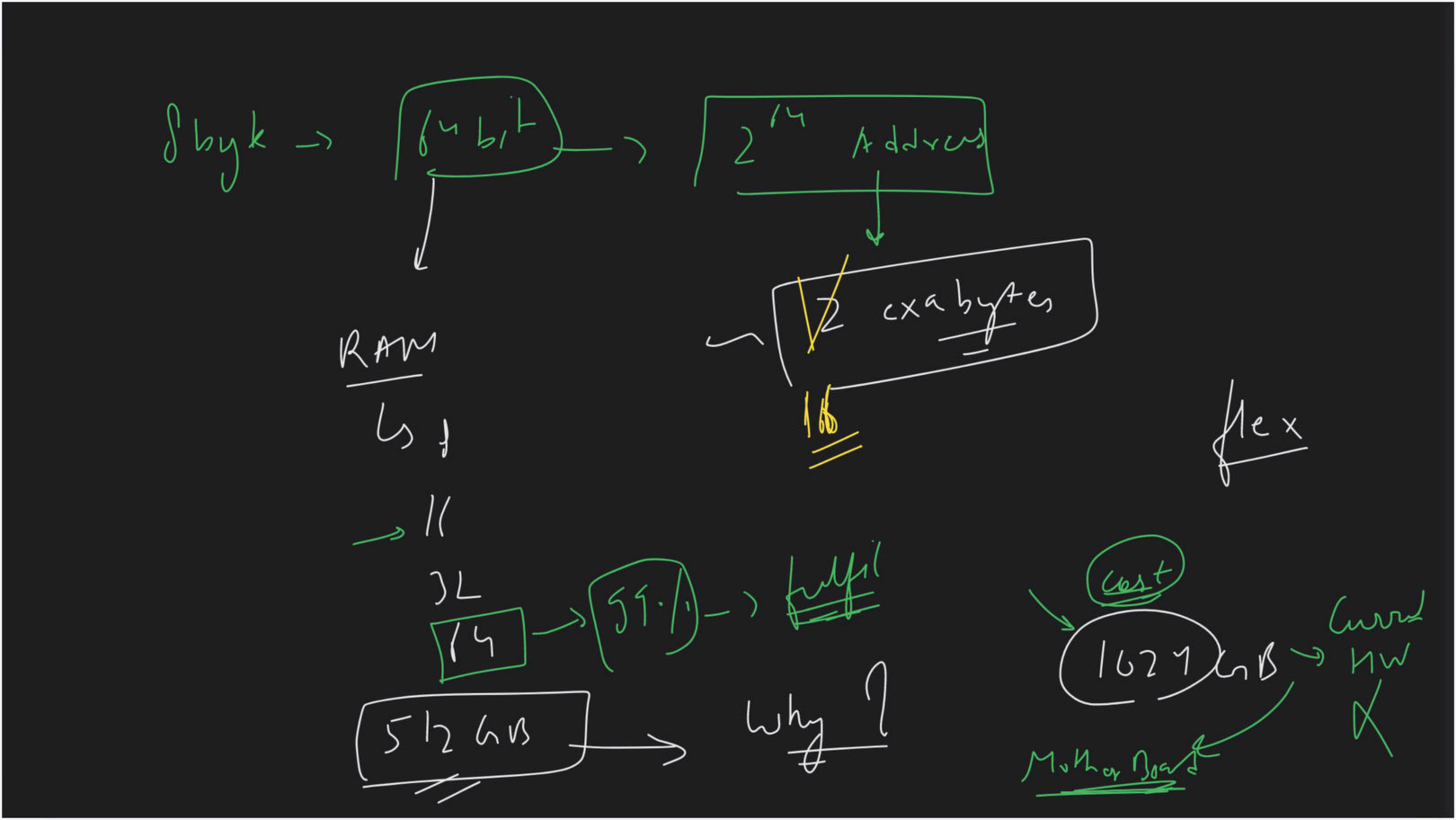
n² -> why ?
pair -> n²
compliment ?
n²
a,b,c
a&b&c -> 0
n³ -> for ( )
for
for
if (i&j&k == 0)

pair ⟶ $O(n^4)$



a/b = complement of

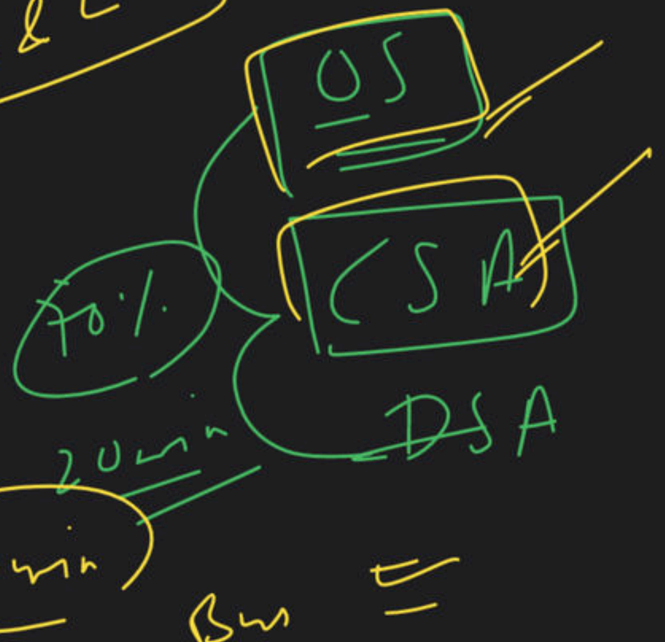
⟶ $O(max(M, N^2))$


8byte
64 bit
2^64 Addresses
RAM
2 exabytes
16
flex
32
64
8 GB
Why ?
Cost
1024 GB
Current HW
Motherboard

Doubt

- Pointer → doubt?
- Pointers
- Dynamic Allocation

Table



Bus =

PAGE

Micropro =

Ky =

FI- -

Confused

main ()

{

int a = 5;

int *p = &a

func (p);

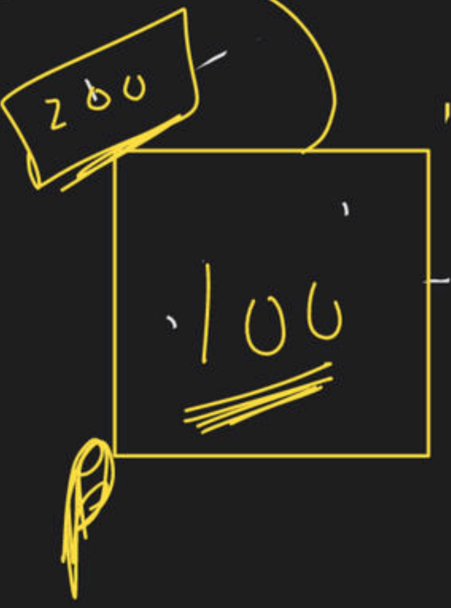
}

func (int *R)

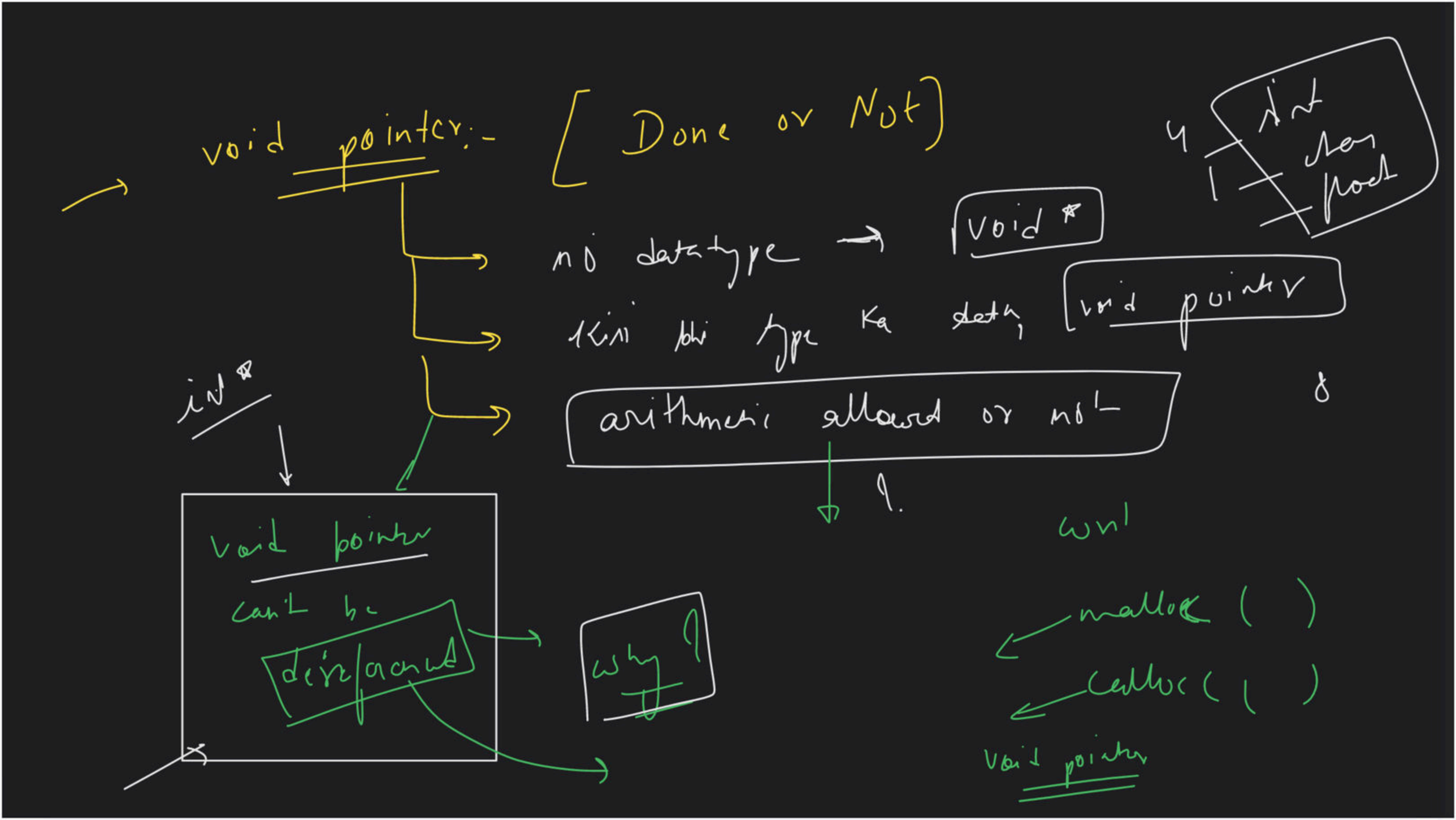
{

a++;

}



(*p)++


void pointer:- [Done or Not]
no datatype → void *
kisi bhi type ka data, void pointer
arithmetic allowed or not
int *
void pointer
can't be
dereferenced
why ?
int
char
float
malloc ( )
calloc ( )
void pointer

—>

int a = 5;

int *ptr = &a;

cout << *ptr << endl;

dereferencing operator

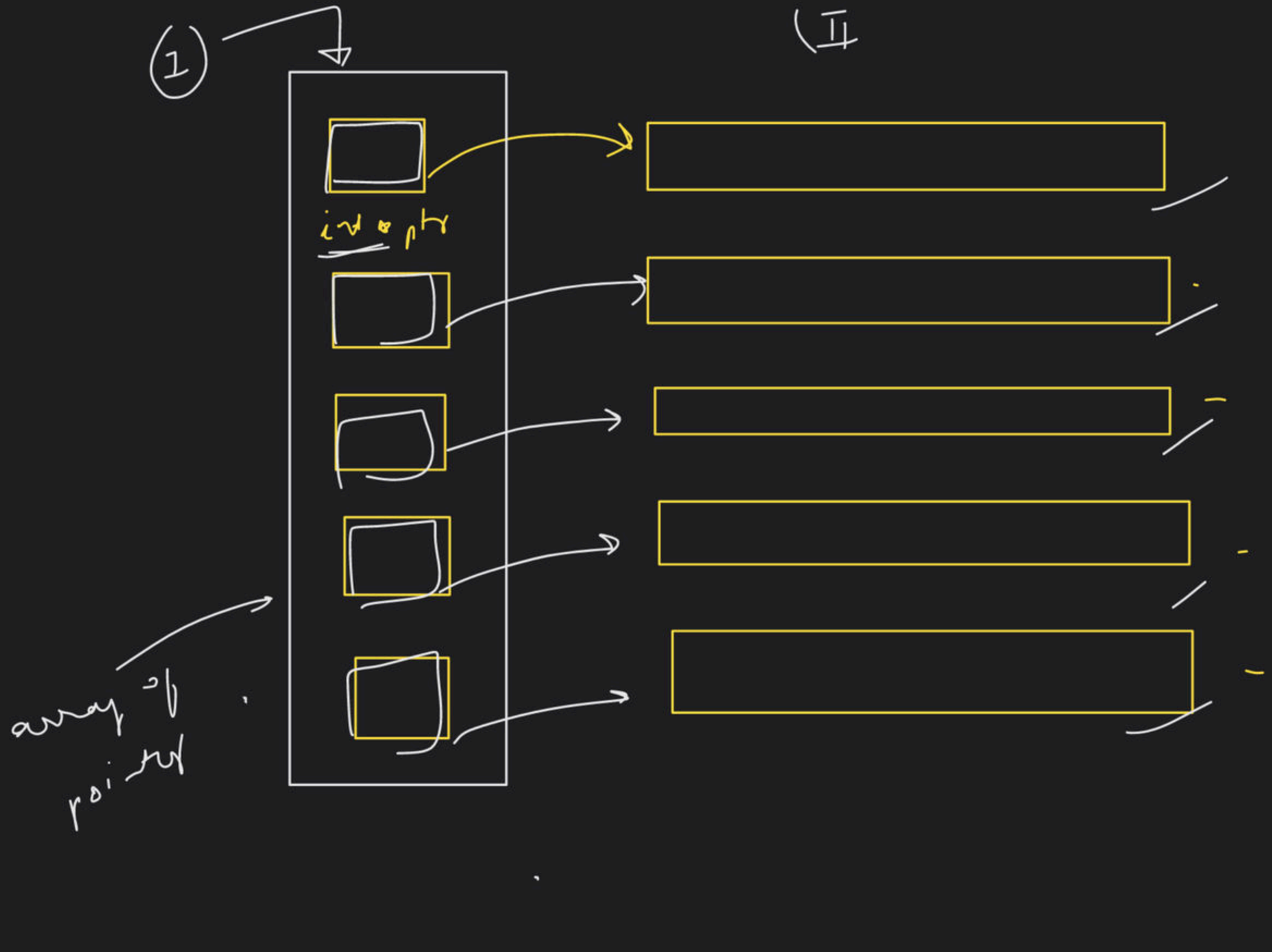
→ 2D Arrays → Dynamic Allocation

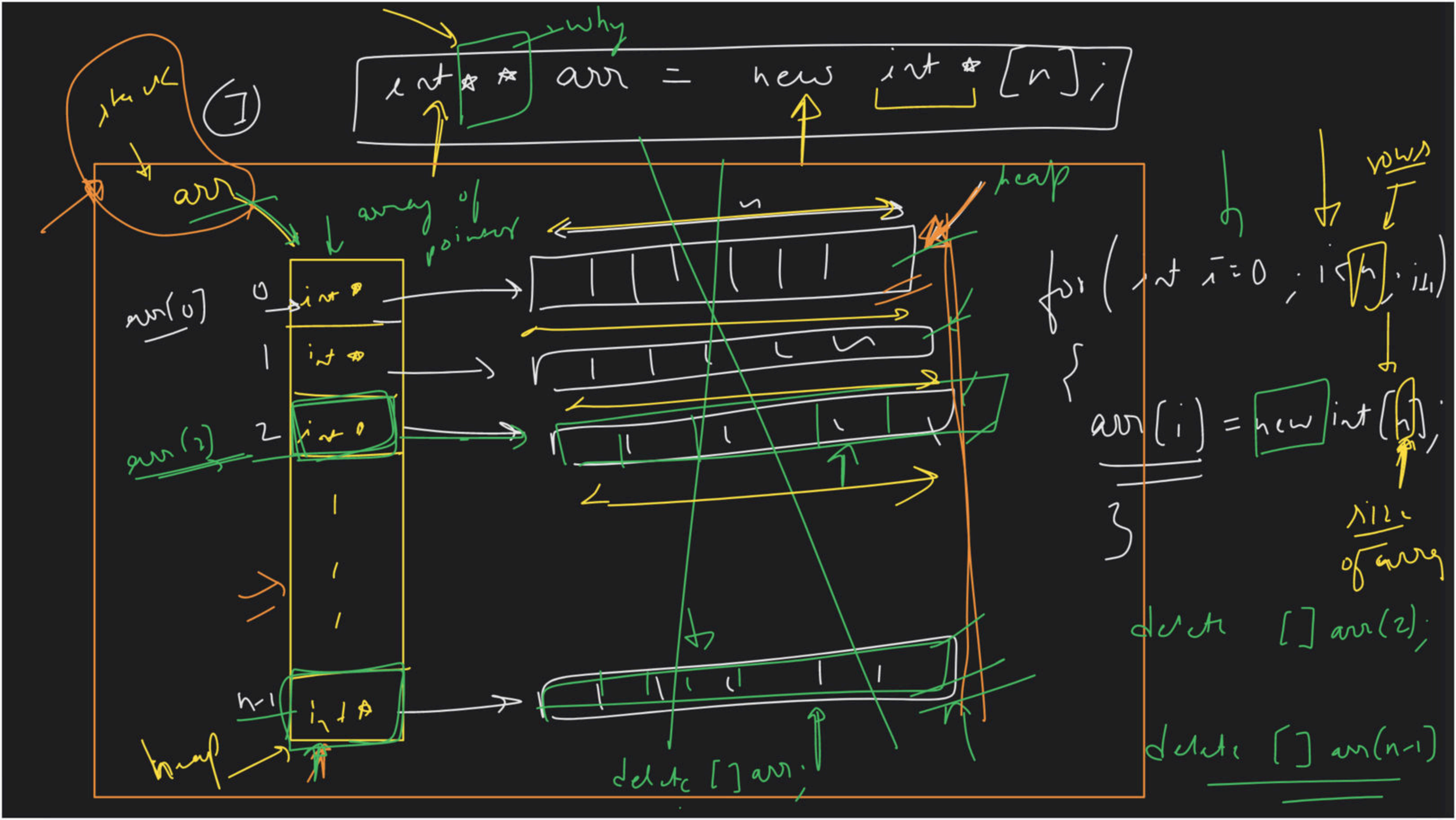
```
int* ptr = new int[5]
```

inside stack

inside Heap

... address of array of size 5


1
2
array of pointers


why
int ** arr = new int *[n];
stack
arr
(1)
array of pointers
heap
n
arr[0]
arr[2]
arr[n-1]
0
1
2
n-1
int *
int *
int *
int *
for (int i=0 ; i<n ; i++)
{
arr[i] = new int[n];
}
rows
size of array
delete [] arr[2];
delete [] arr[n-1]
delete [] arr;

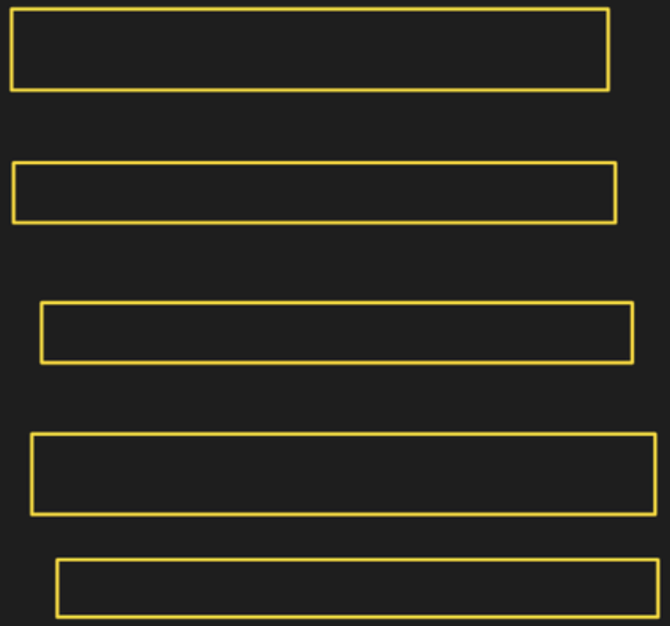
Jagged Array

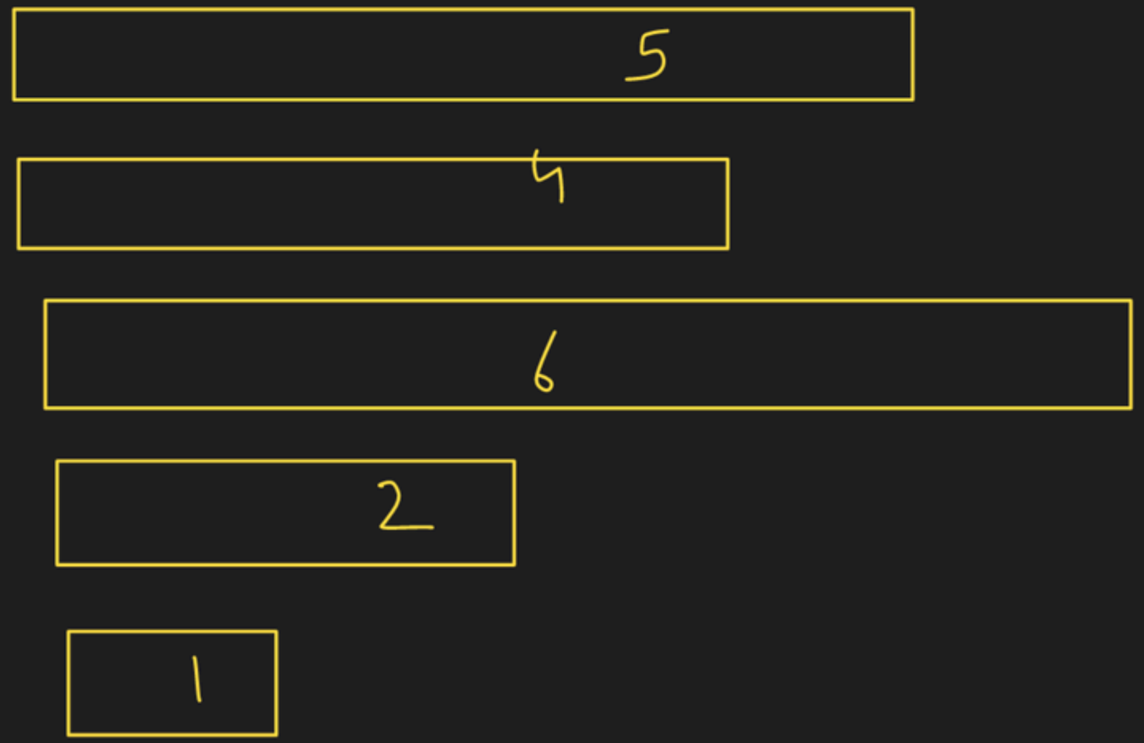
```
for ( i=0 ; <n)
{
    delete [] arr(i);
}
```

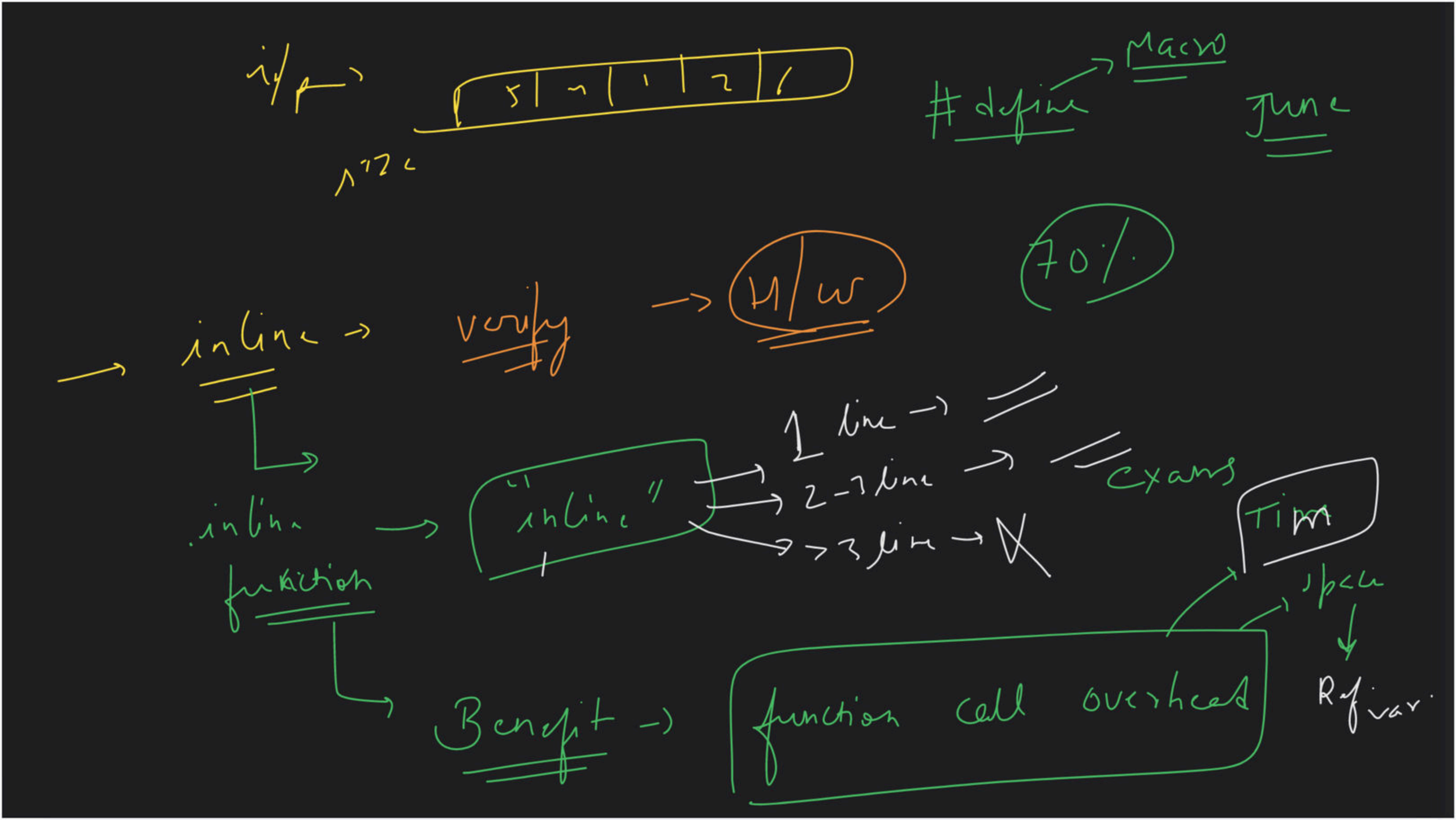
int *** rr;

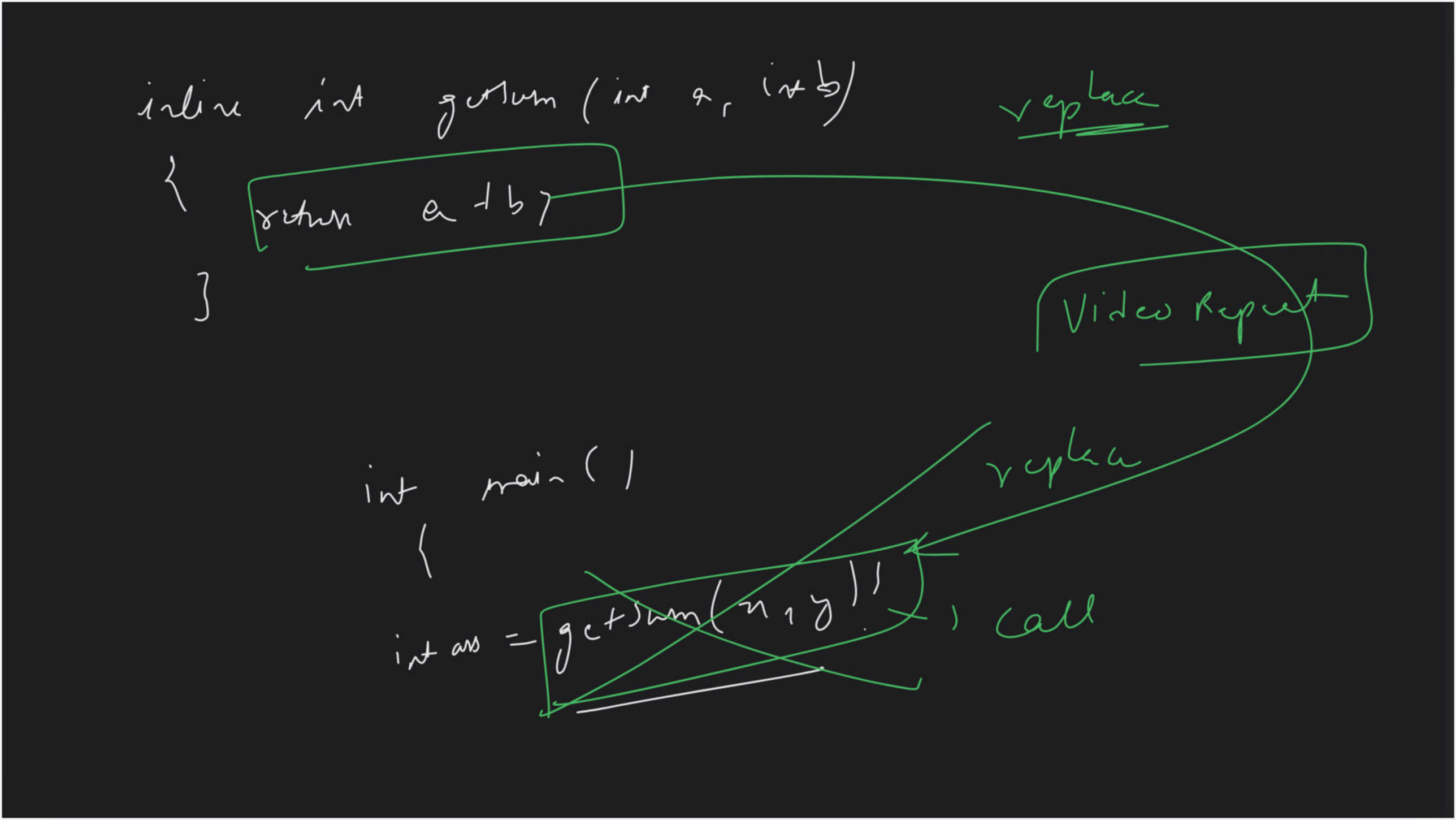
int ** q;

int * ptr

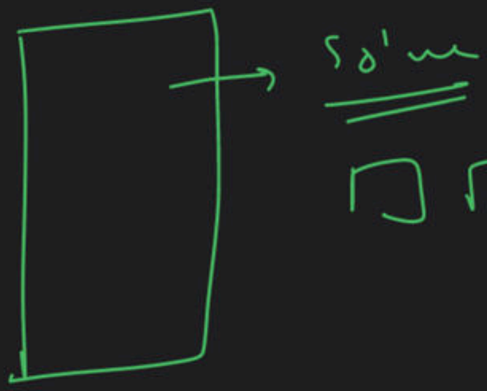



5
4
6
2
1

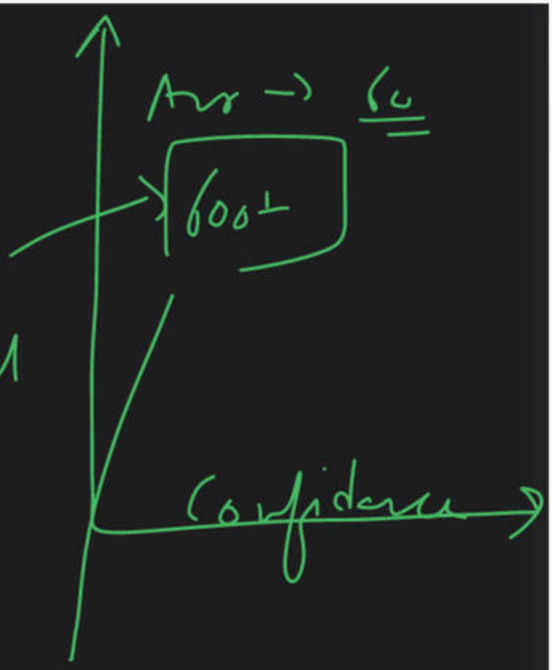

i/p
5
1
2
#define → Macro
func
inline → verify → H/W
70%
inline function
"inline"
1 line →
2-3 line →
>3 line → X
exams
Time
Space
Refer.
Benefit →
function call overhead

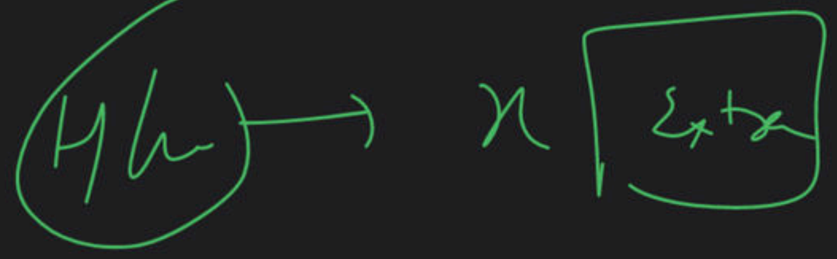

inline int getsum(int a, int b)
{
return a+b;
}
replace
Video Repeat
int main()
{
int ans = getsum(x,y);
replace
call

→ System :-

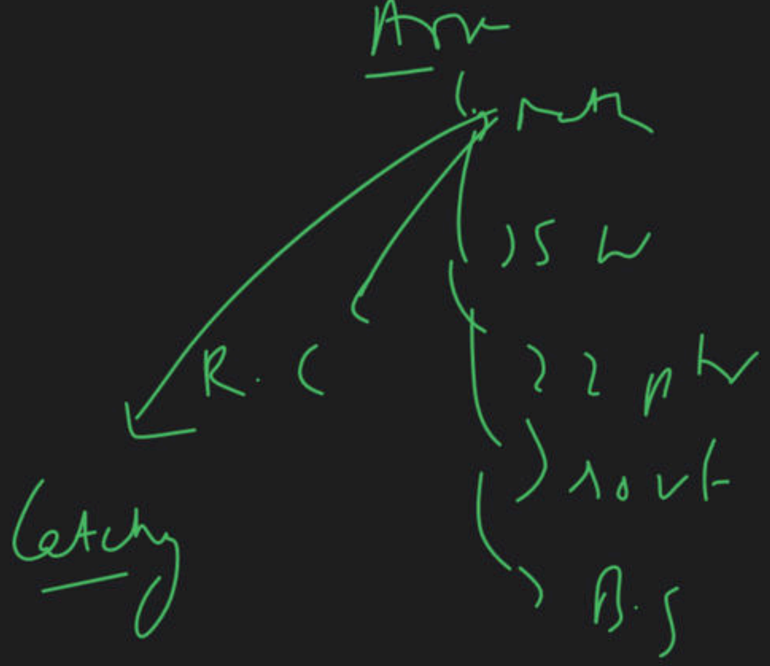


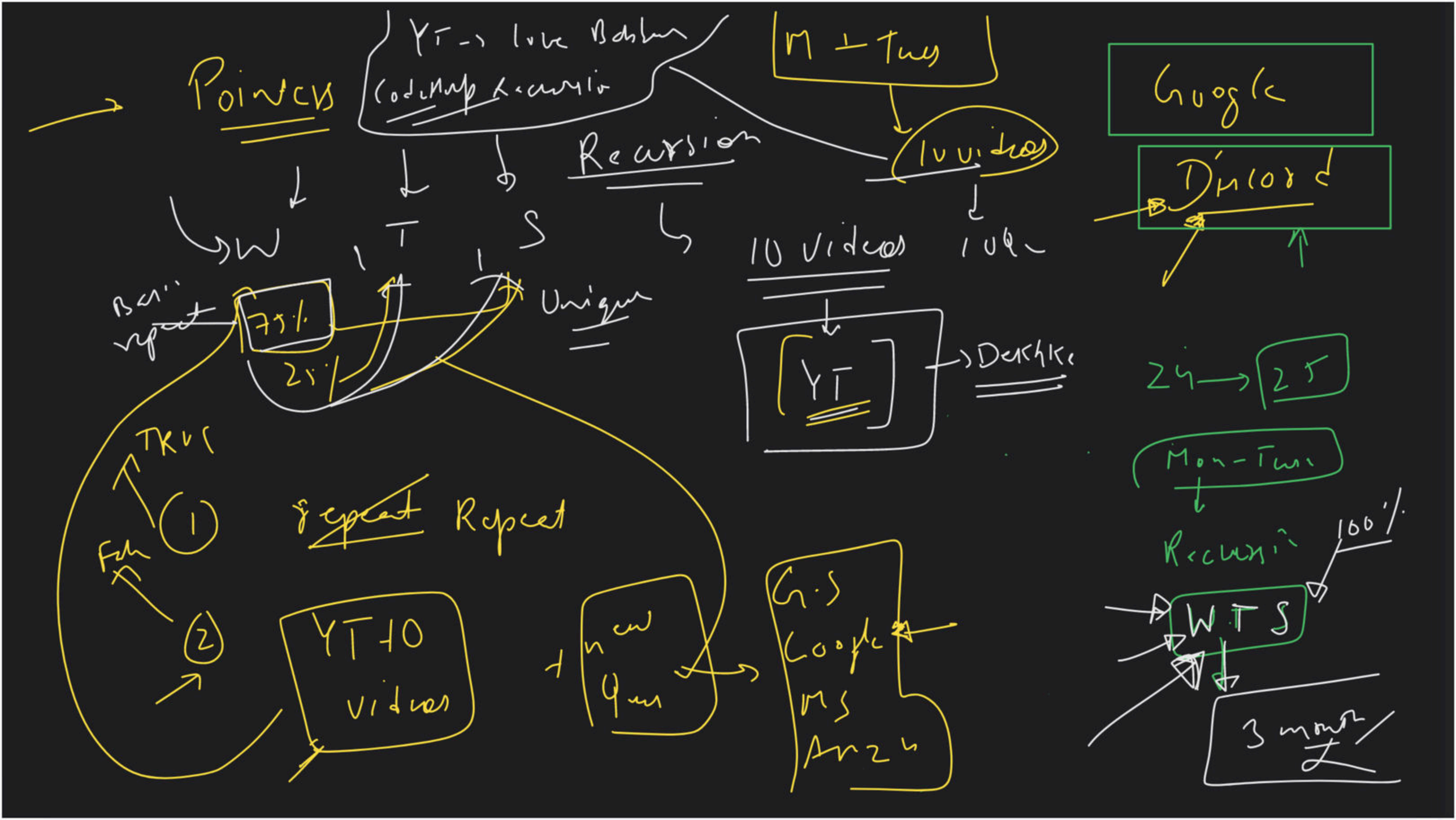
→ topic & diff. level

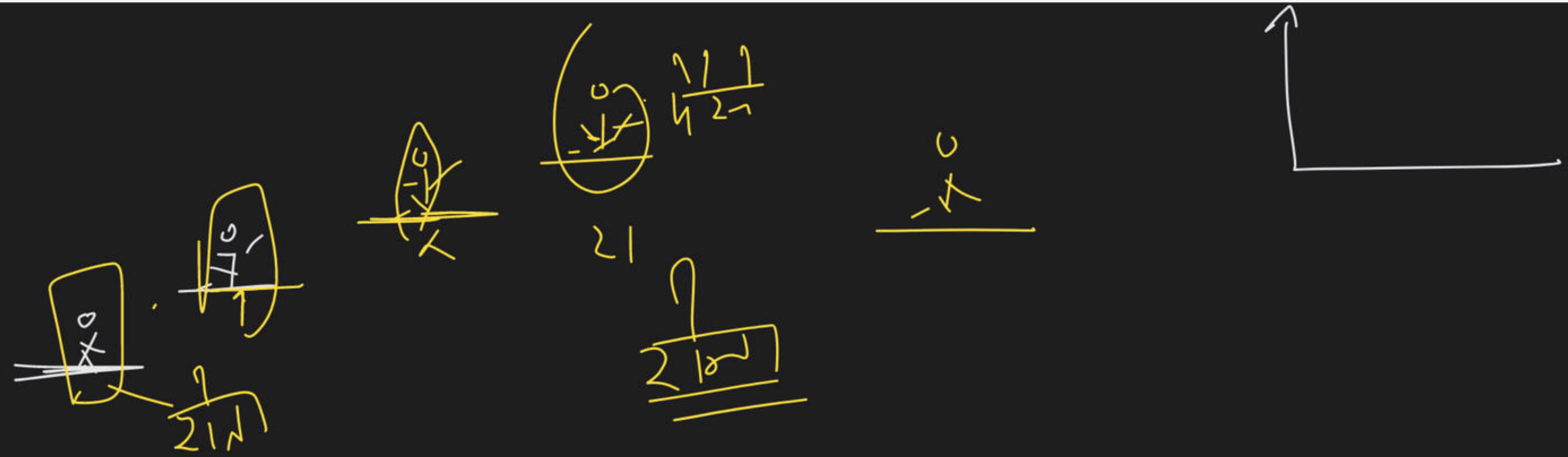




→ 450 sheet →




Pointers
YT -> Love Babbar
Recursion
M + Tues
Google
Discord
10 Videos
YT
Unique
Repeat
YT 10 videos
GFG
Coode
MS
Amzn
Mon-Tues
WTS
3 more



Z → ↑↓ matter → Intern Guide :-

→ DSA [volumes]

→ atleast 1 project

→ CN & Compiler & , DBMS &

→ OS & OOPS

→ Low-level Design

→ Education loan | 1.25 Cr | 12L

Pre Boards
97
68 72
Internship

Homework
→ Google /
Discord

⟹ Correction
→ measure

BAKWAS

Reasoning →
why?

Sundar / Sundari

Intern

→ skills

→ PPO → FTE

Pune

1 Lakh 20 saal

2 month → 2 Lakh

1 Lakh / month

1 sem → 1 Lakh

3,10,2

8

3 saal → Lakh

Meri rapini

₹ → 1.5

1.5 → 2.0+

100

1000

→ intern → legit → Adobe / Strikers
↓
Health

Dec - Feb → late - start

Referral
↕
Main Knowledge

Off - Campus → 2 videos

Gyaan Session