DSA →) ✓

OOPs →) ✓

OOPs ⇒ Complicate

⇒ 500+

OOPs Class-1

Special class

⇒ 3 months DSA ✓

C++ Syntax

Memory allocation

Loop

6 months

Love Babbar • Oct 23, 2023

⇒ int fun( ) ⇒ Maza nahi aara ★★ C++

{ Kaam ✓ Task

}

main( ) ✓

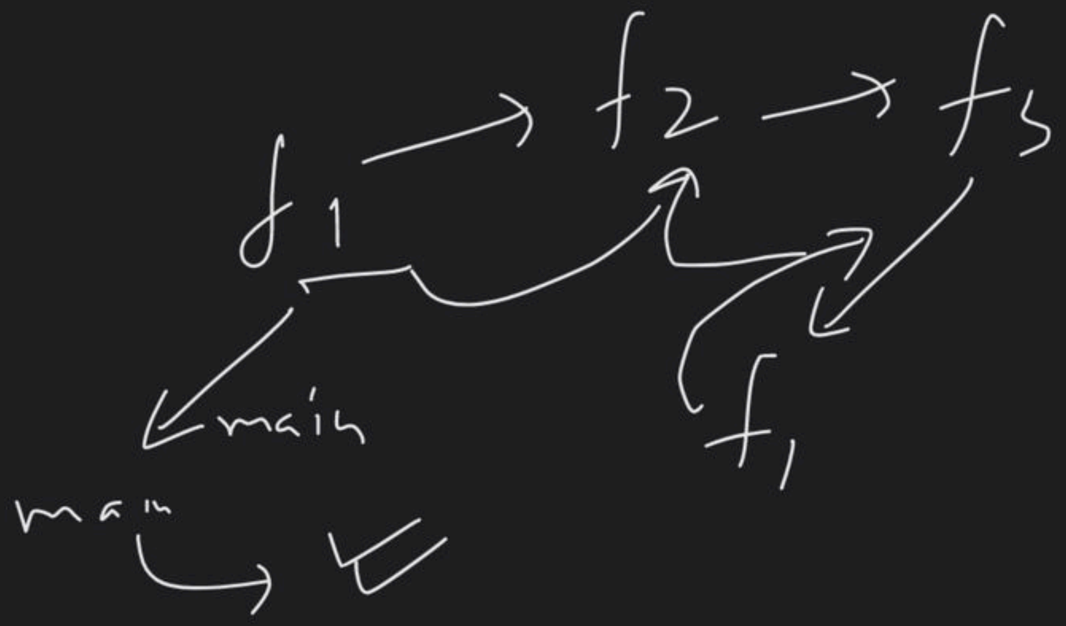
{

int a = fun( ) ✓

cout << a << endl;

}

★ Functional programming



⇒ Students → 2 students

↳ id=

name

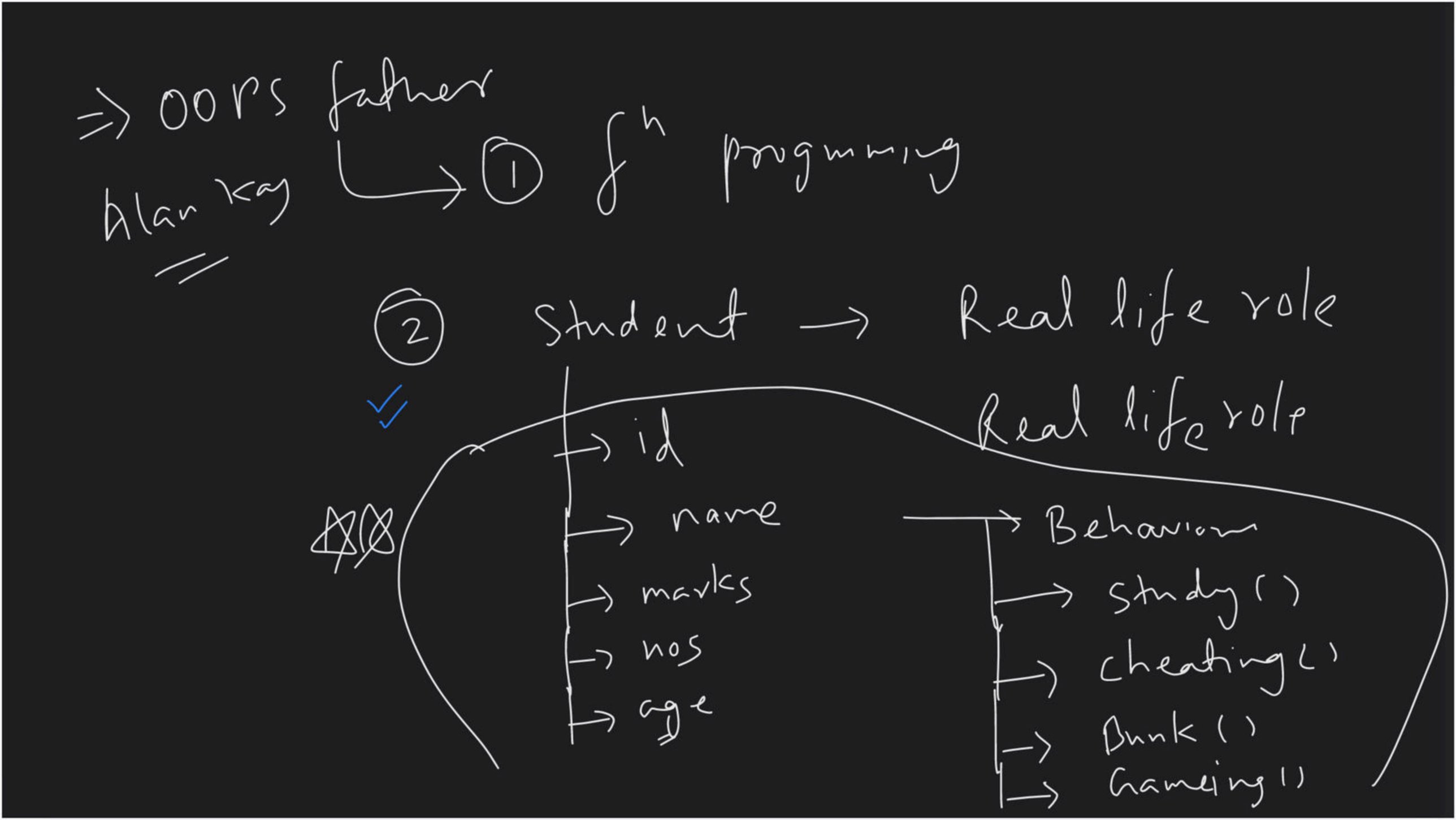
age

no. of Sub.

⇒ ① Ease to implement X

② Easy to Extend X → X

③ Maintamance X



⇒ OOPS father

Alan Kay → ① f^n programming

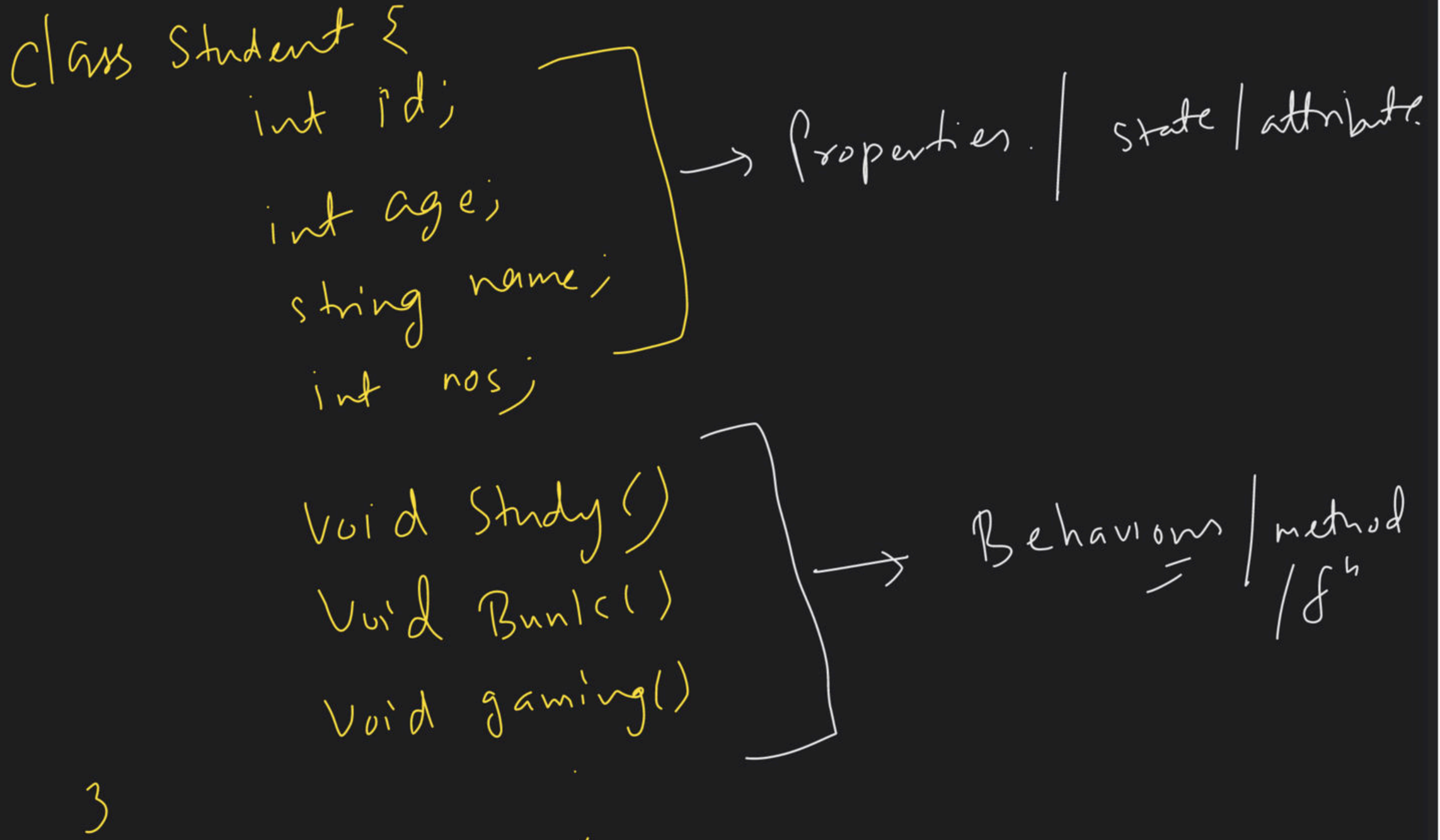
② Student → Real life role

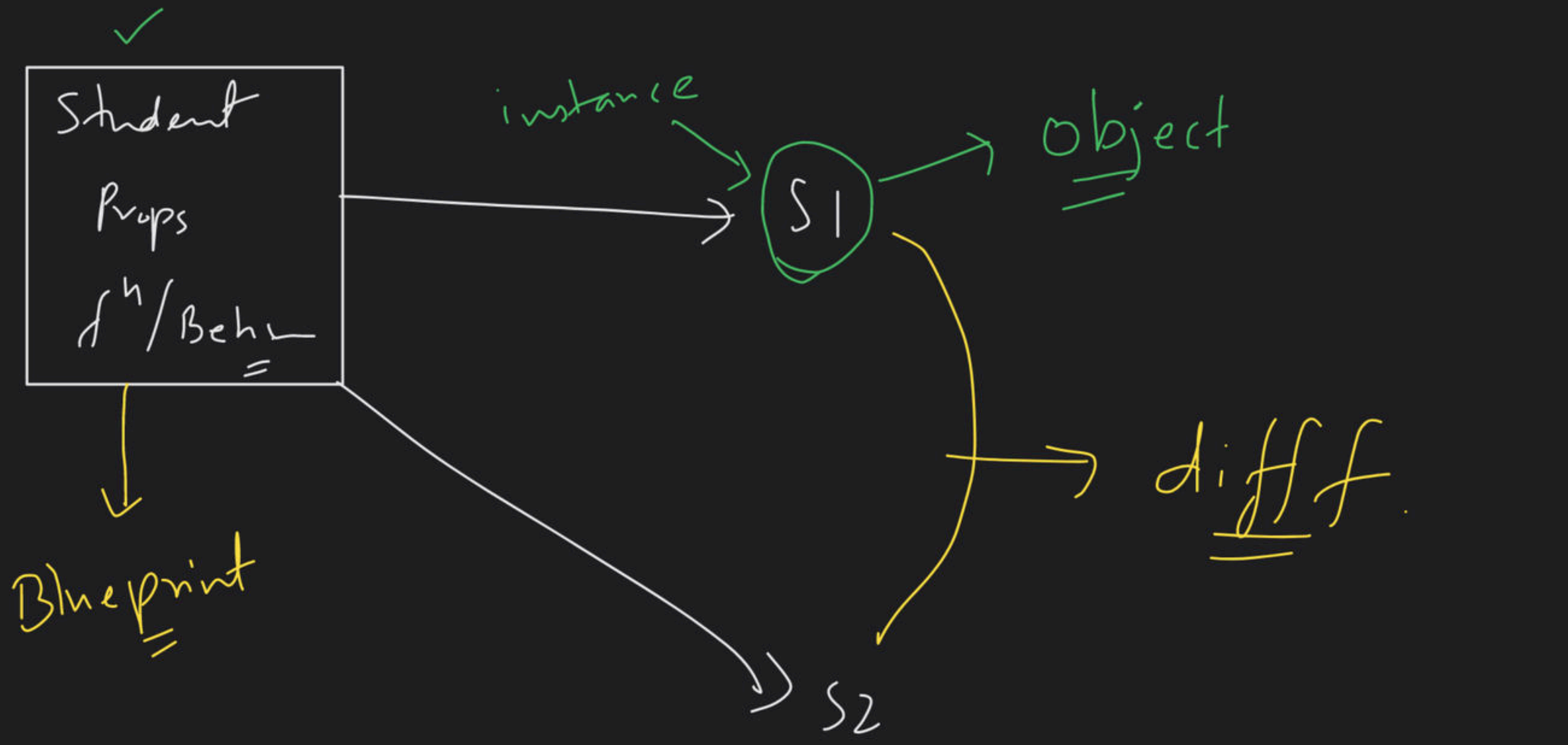
Real life role

- → id
- → name
- → marks
- → nos
- → age

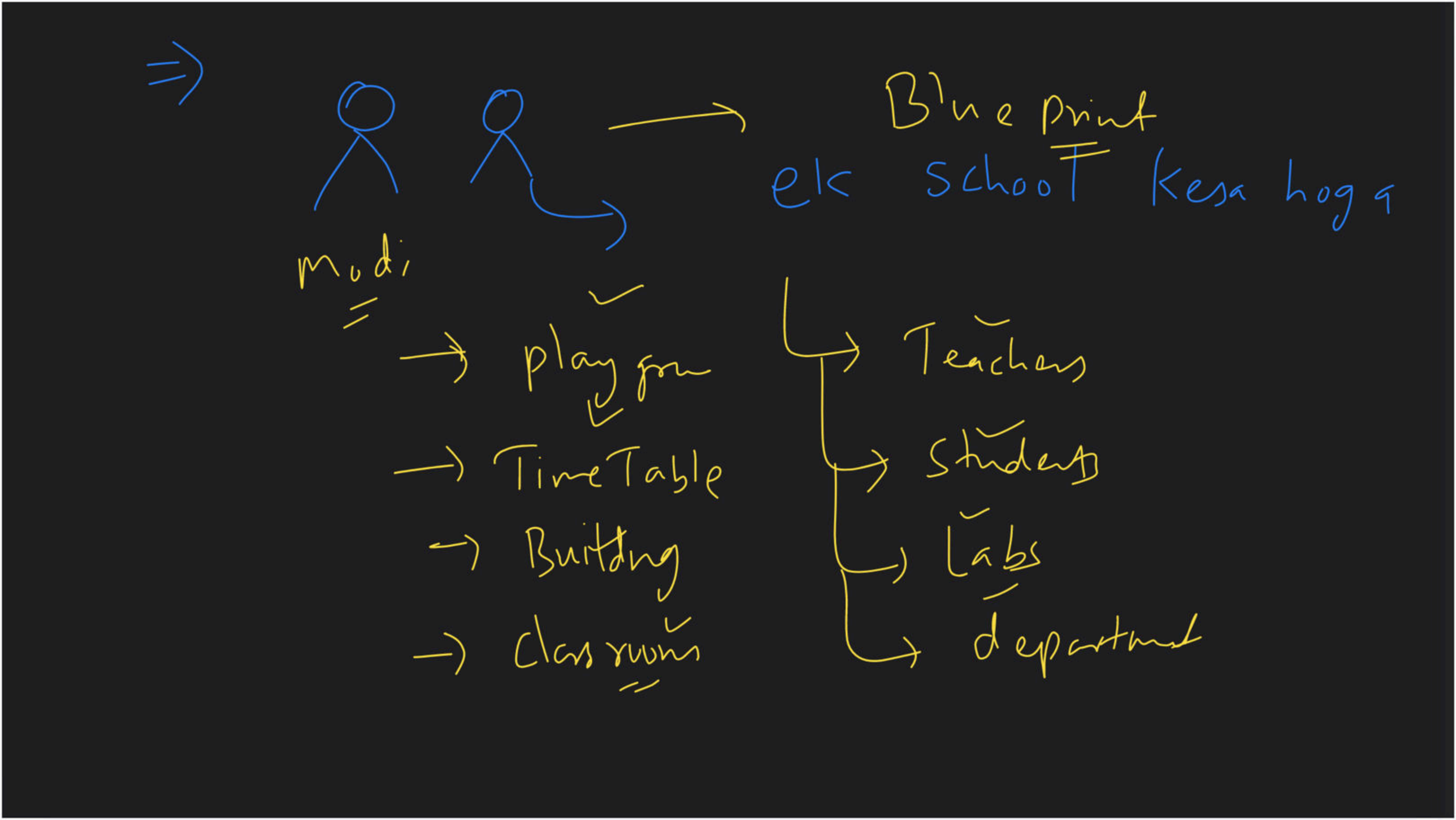
→ Behaviour

- → study()
- → cheating()
- → Bunk()
- → Gameing()


class Student {
int id;
int age;
string name;
int nos;
Properties / state / attributes
Void Study()
Void Bunk()
Void gaming()
Behaviours / method / fn
3

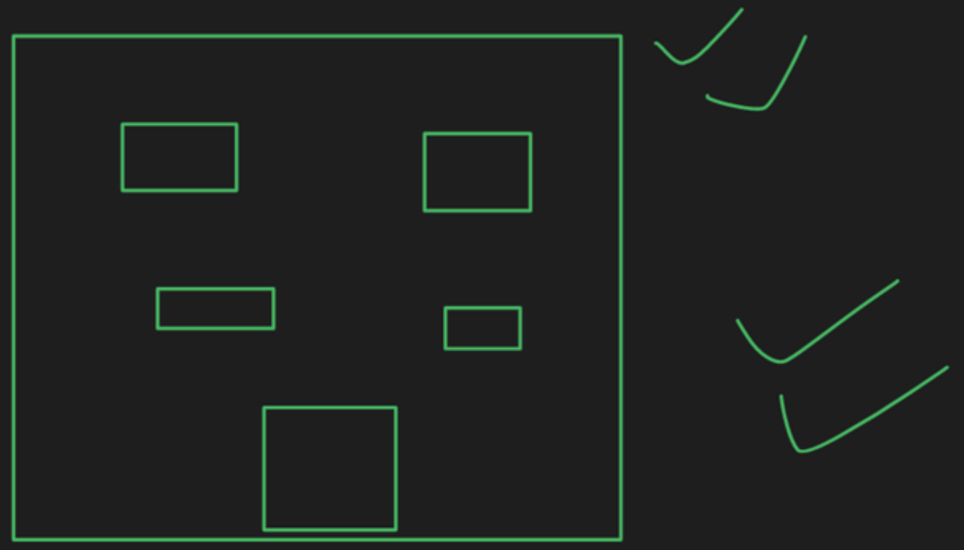


=> object -> instance of a class


Blueprint
ek school kesa hoga
Modi
playgrou
TimeTable
Building
classrooms
Teachers
Students
Labs
department

School Blueprint

me etc school Banany



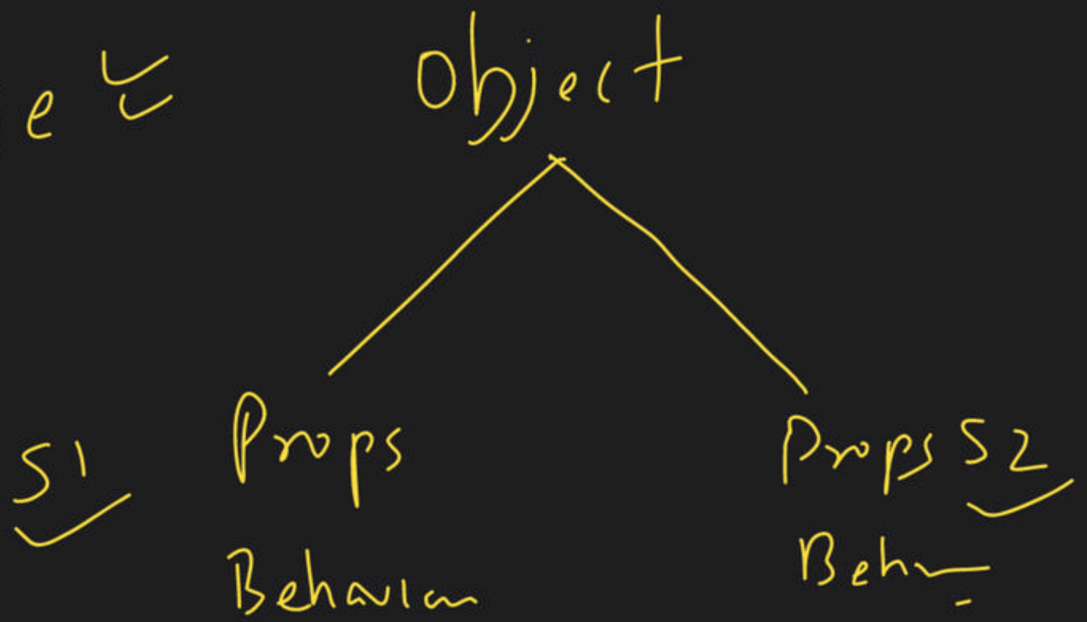
⇒ f^n programing

⇒ Object oriented programing

⇒ Object bante honge

Object

S1 Props Behavior



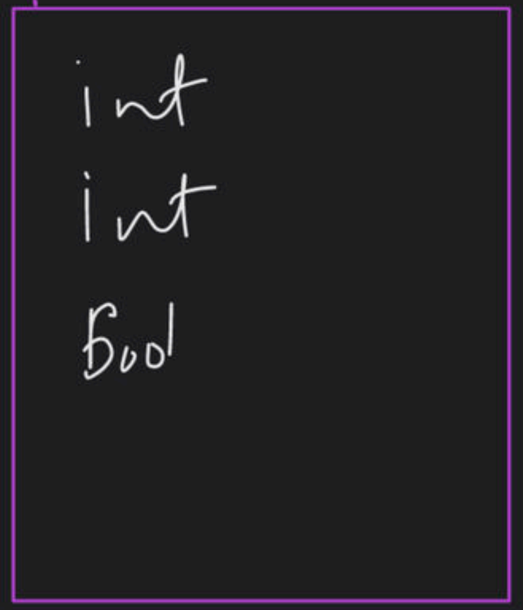
Props S2 Behav

⇒ Class → B.P → ① Empty class
↳ size hoga??

② class non-empty to koi size hoga??

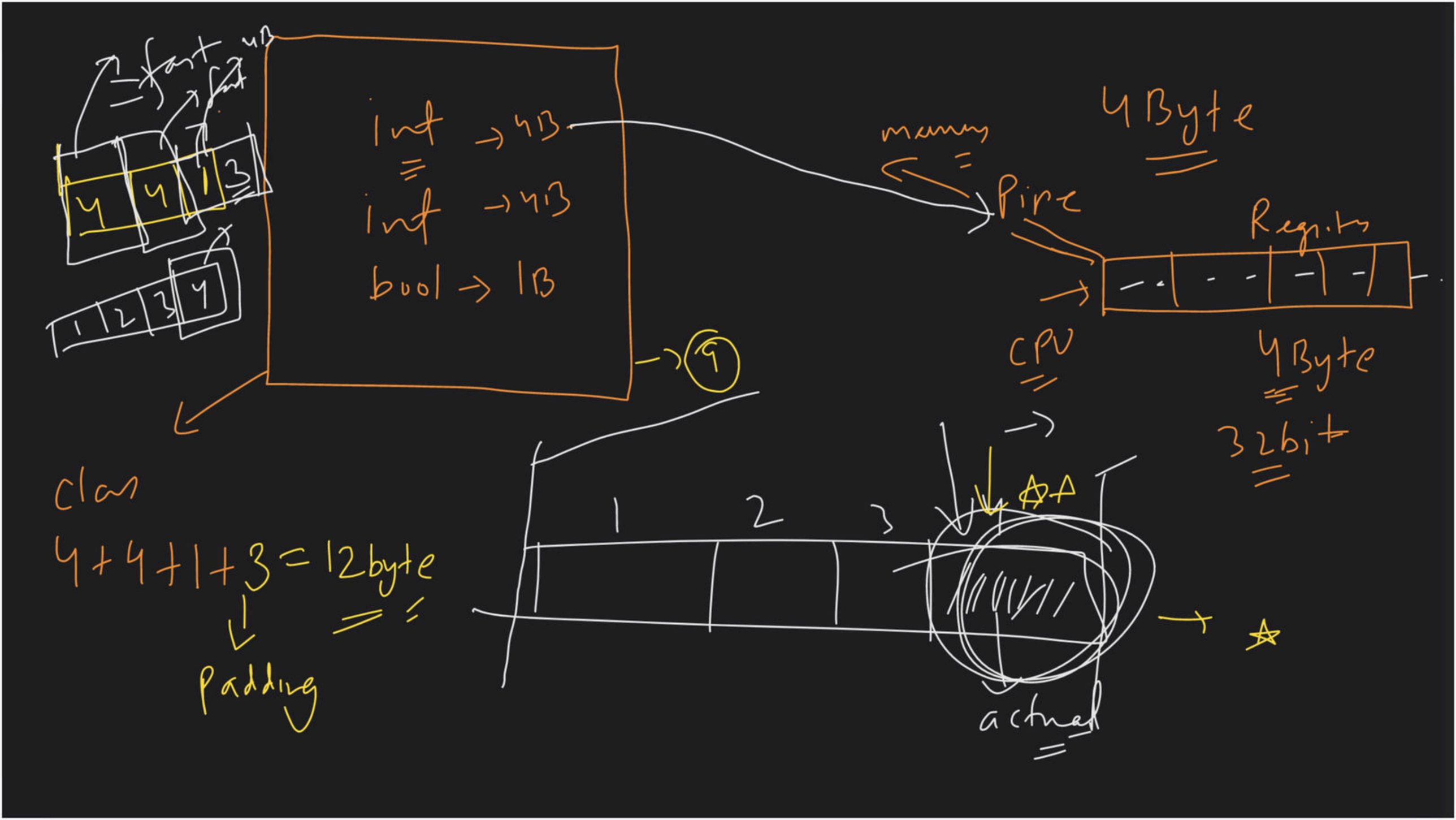
⇒ Student

⇒ int
int
bool

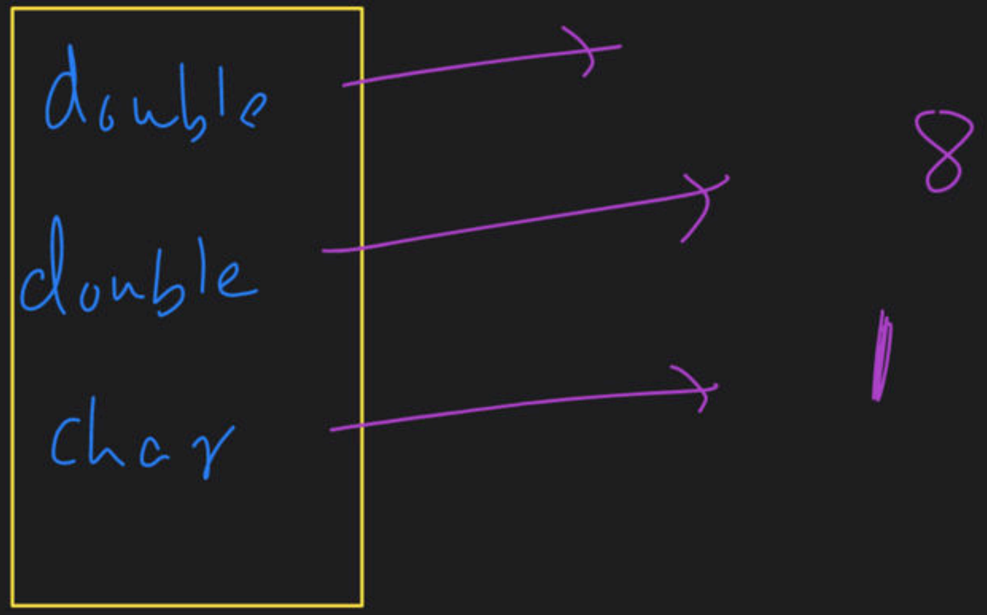


8 B ✓

→ 12 ???



fast
4B
fast
4 4 1 3
1 2 3 4
int → 4B
int → 4B
bool → 1B
→ 9
memory
Pipe
4Byte
Register
CPU
4Byte
32bit
clas
4+4+1+3 = 12byte
Padding
1 2 3
actual



$8 + 8 + 1 = 17B$

$8 + 8 + (1 + 7) = 24B$

To Pick

↓

Sabse Big Data type

⇒ Bhaya → = ① sabse Big datatype

② Align Sum of datatypes in the Boundary of Sabse Bada datatype

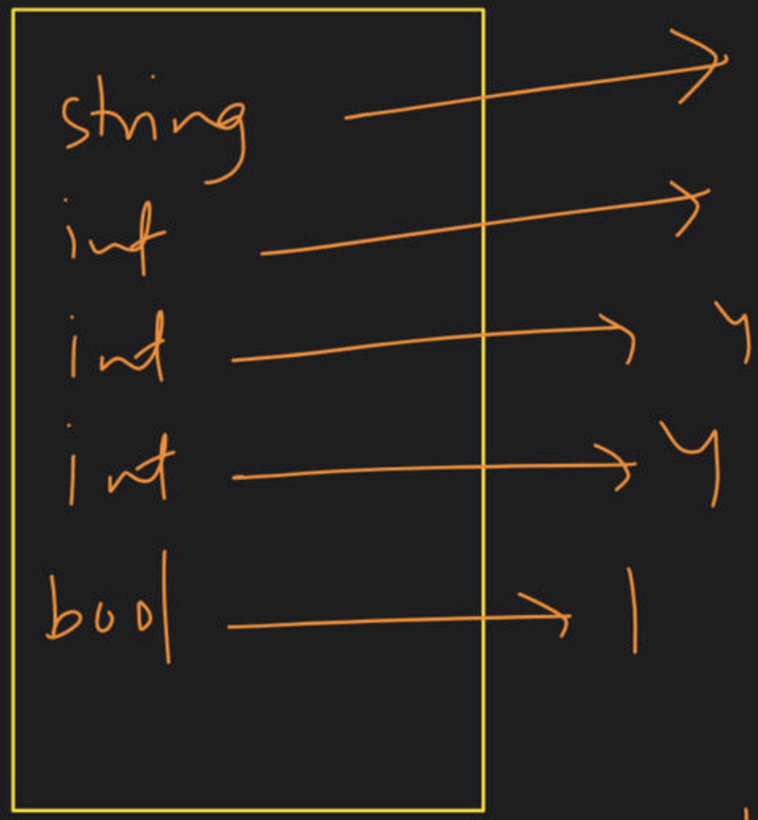
2 min Break

⇒ Upr upr
se use Kro

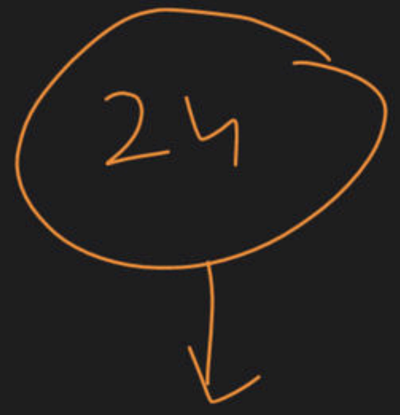
don't go into
implementation

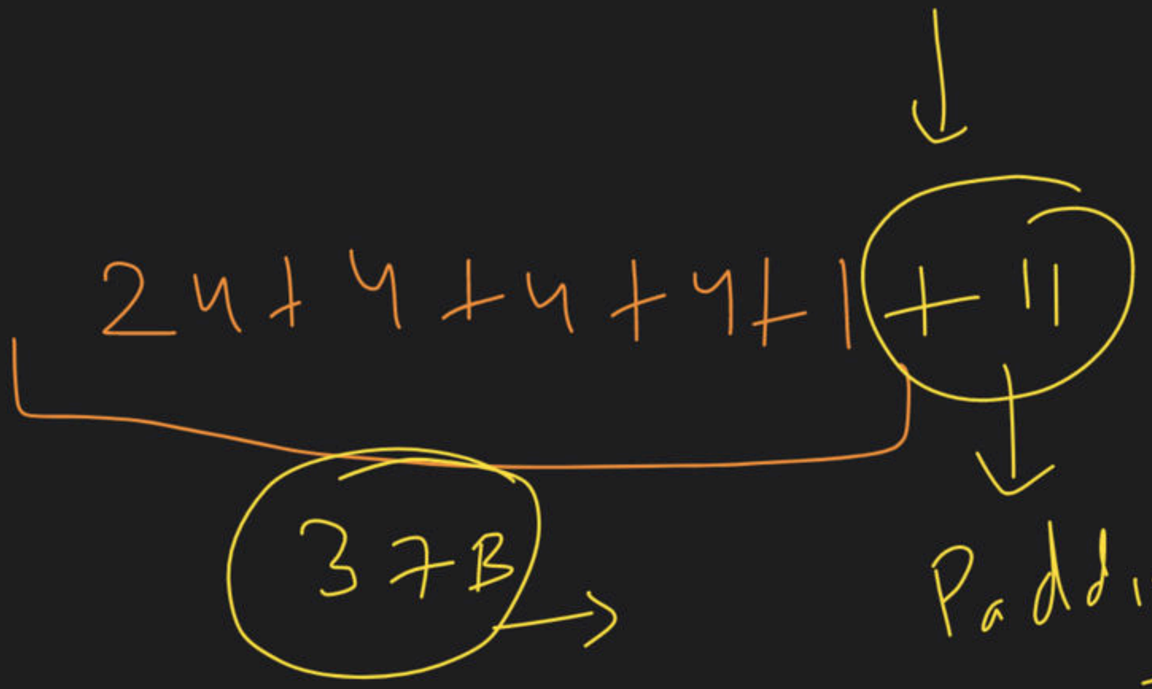
Car → → chala

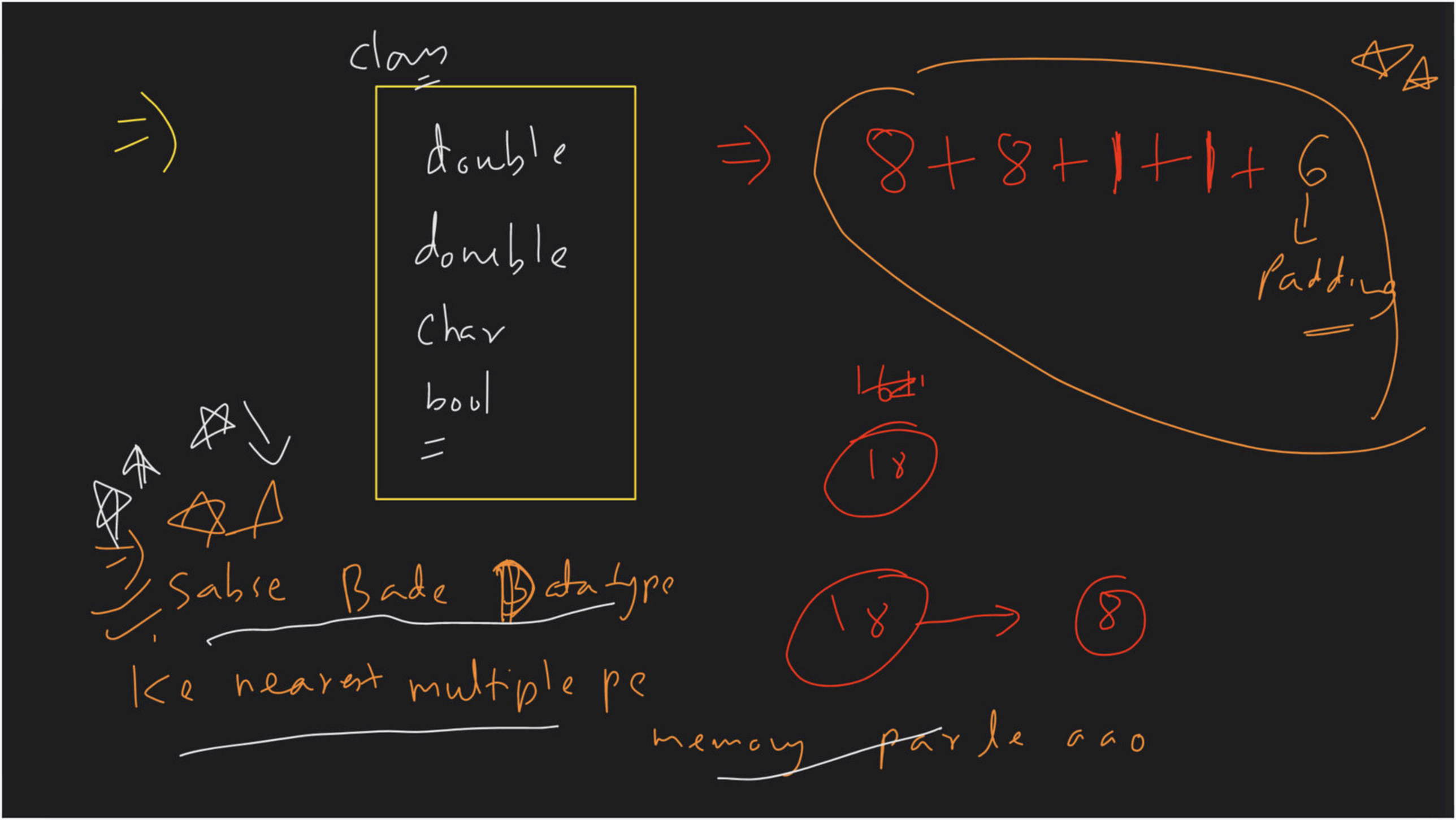
→ use things in Abstract way


string
int
int
int
bool
24
4
4
4
1

24
48

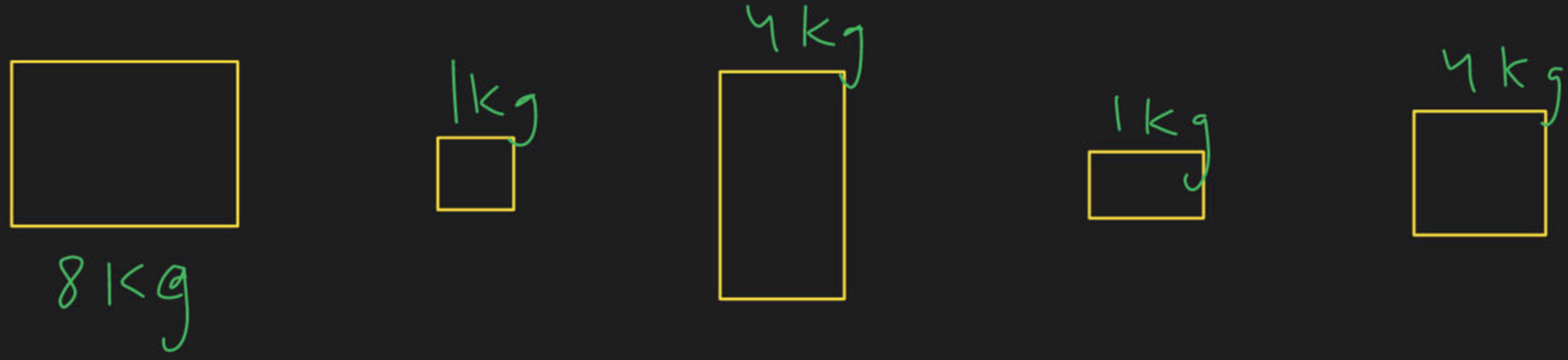

24
multiple


24+4+4+4+1
+11
37B
Padding


class
double
double
char
bool
8+8+1+1+6
Padding
16
18
18
8
sabse Bade Datatype
ke nearest multiple pe
memory par le aao

Mummy

↳ neeche Bonen.



⇒ Life → har insan ki kuch ① public info

② Private info

X ③ Protected info

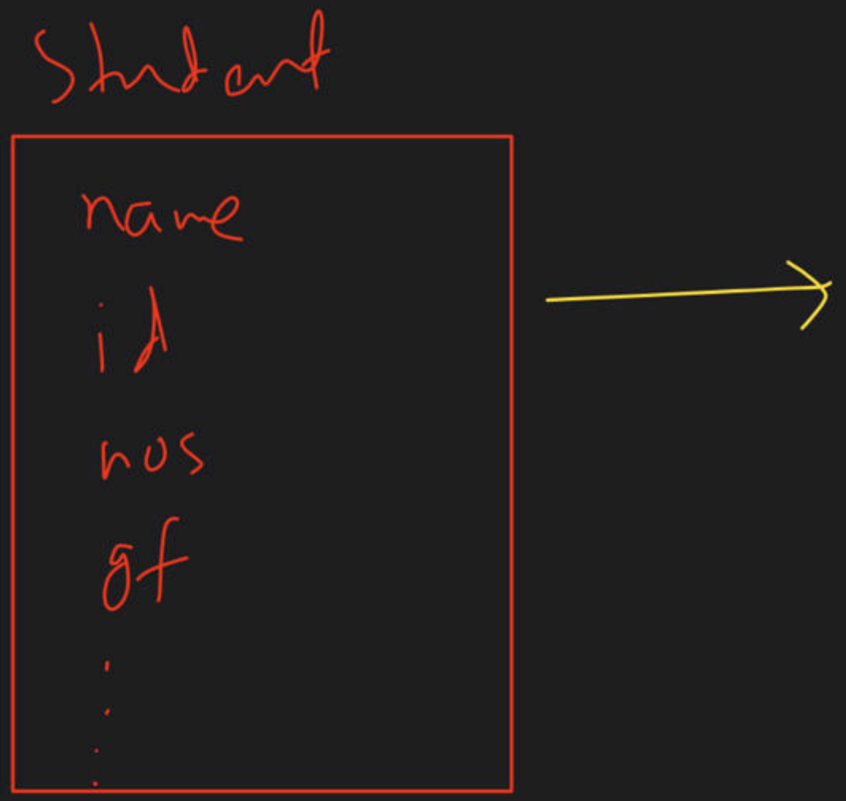
Student

Coding → student

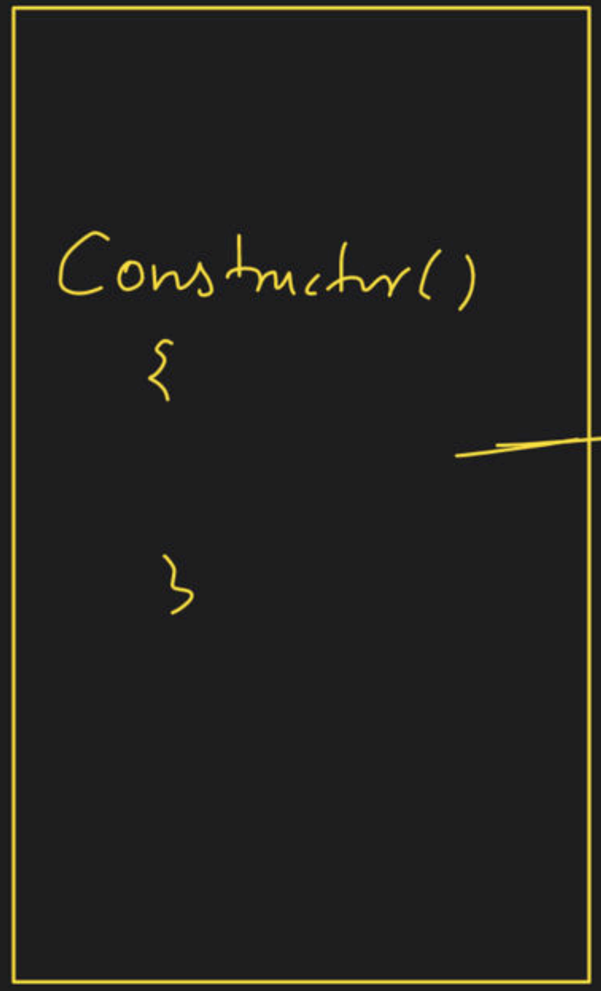
=) By default private hoy

↳ Must be always jo chize public
kar paye

Access Modifiers => Define scope of access.




```
Student s1;
s1.name = "Aoli";
s1.age = 12;
```



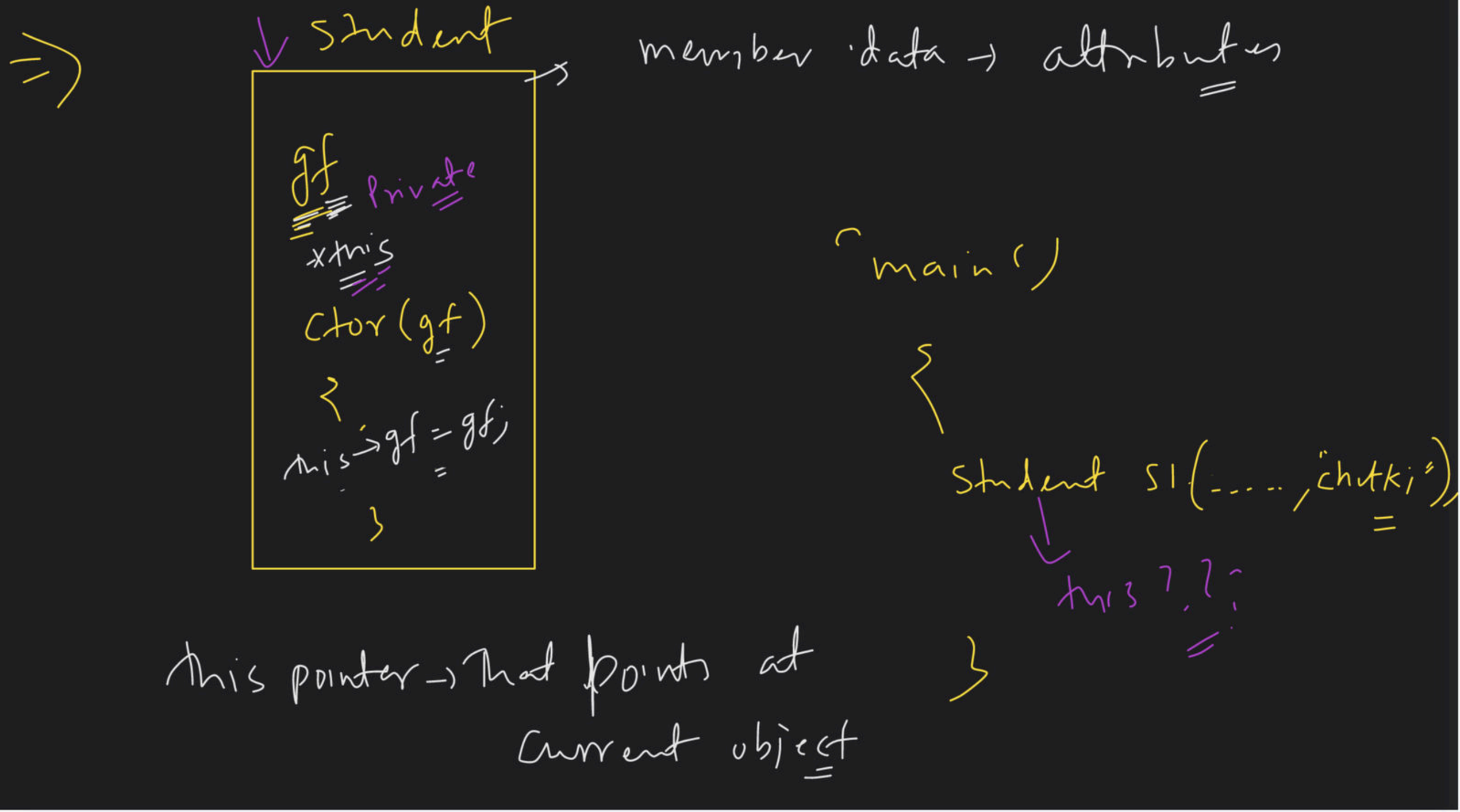
Only f^n in the class

C++:

that has No return type

Ctor => it construct an instance

of class.


Student
member data → attributes
gf
Private
*this
Ctor(gf)
{
this->gf = gf;
}
main()
{
Student S1(....., "chutki");
this ??
}
this pointer → that points at
Current object

This ptr → added By Compiler

↳ privately

Student S1; → int a;

Student S2 → int b;

int a;

stack

Student s1;

kaha allocate ??

stack

⇒ Heap int

```
int *a = new int(5);
```

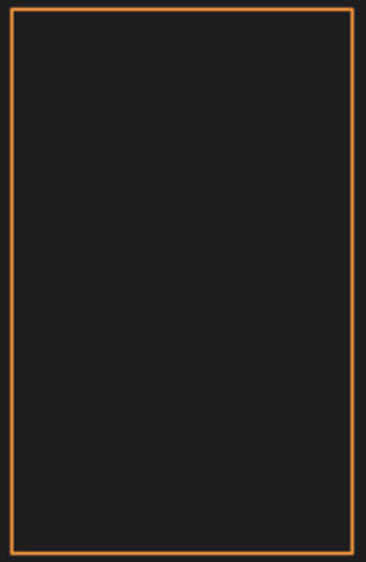
datatype*

datatype

Student Heap

```
Student *s = new Student
```

Student



Student S1(- -)

↓

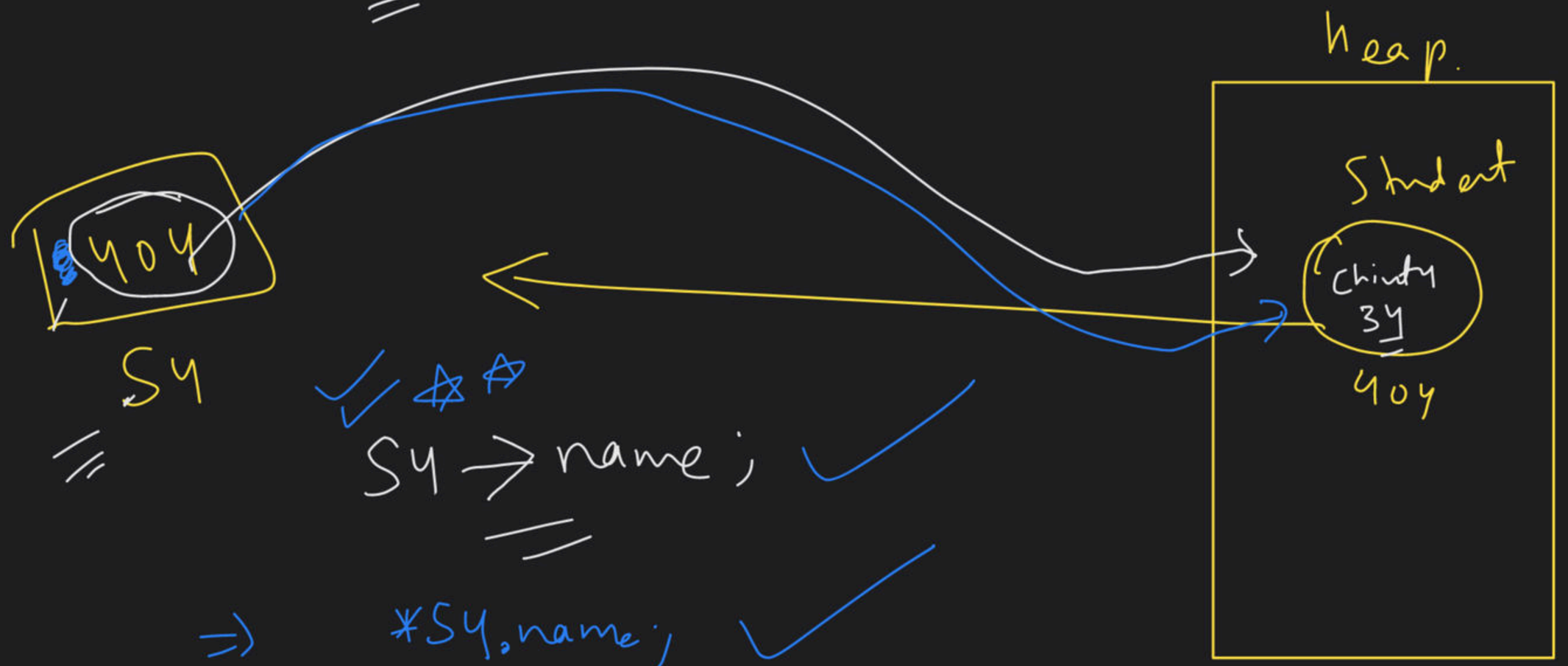
Stack

⇒ Obj → Stack

S1.name;

Heap

Student *sy = new st_____();



sy -> name;

=> *sy.name;

⇒ Next

→ Copy ctor

⇒ getter/setter

H.W/

① → const.

② static

③ initialization list

④ Macro

⇒ Kal Ki class ⇒

2PM ??

9PM