



# Introduction - Part I

Comprehensive Course On C++



# CS & IT Engineering

C++ Introduction



Lecture Number- 01

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# Topics

*to be covered*

## 1 Introduction part -I



Mon to Friday  $\rightarrow$  8 weeks  $\times 5 \Rightarrow 40$  classes ✓

Mon to Sun  $\rightarrow$  8 weeks  $\times 7 \Rightarrow 56$  classes

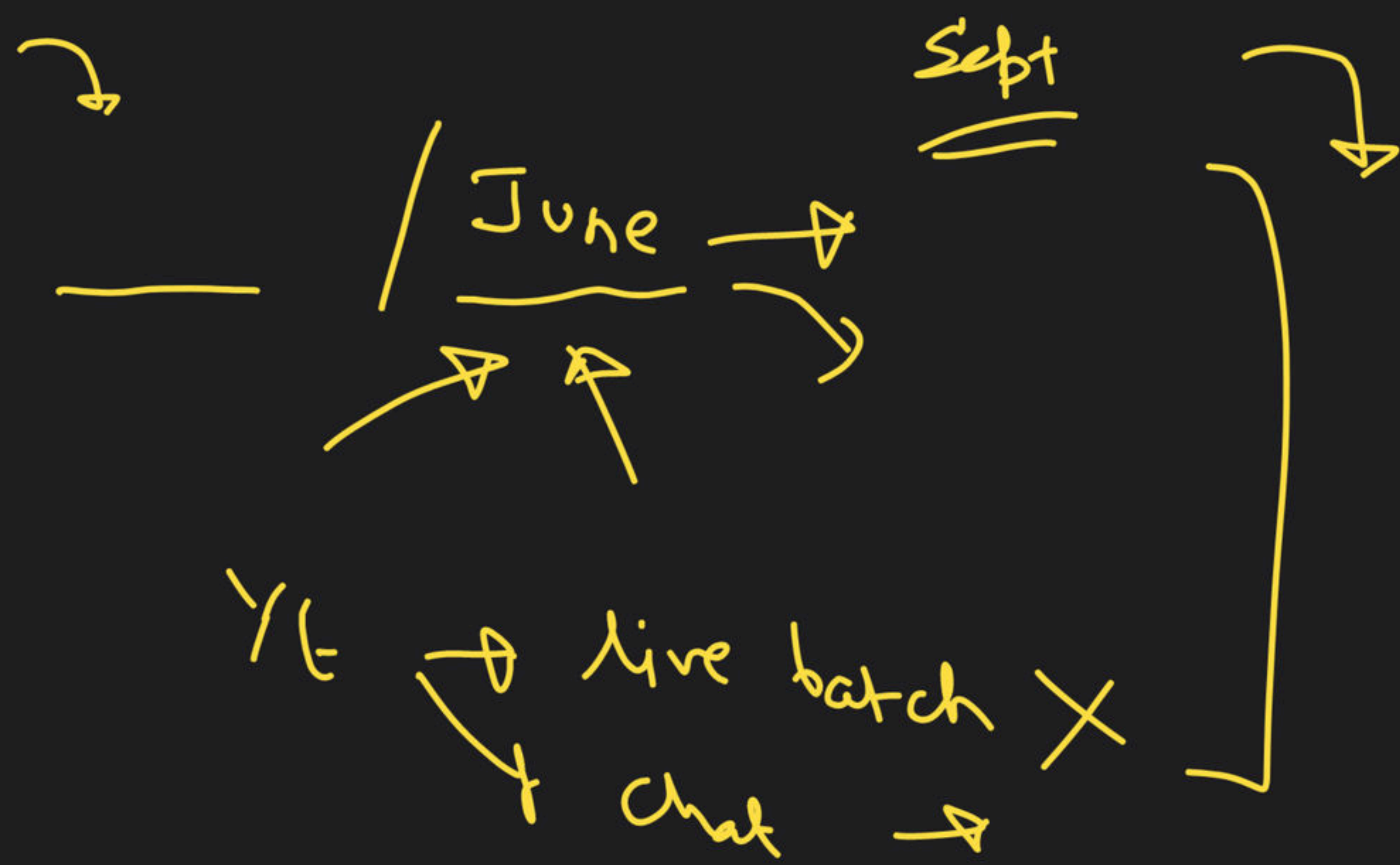
7 days  $\times$  2-3 classes

44 + 16  $\rightarrow$  60 classes ✓

30<sup>th</sup> April

1 off

$\rightarrow$  ———

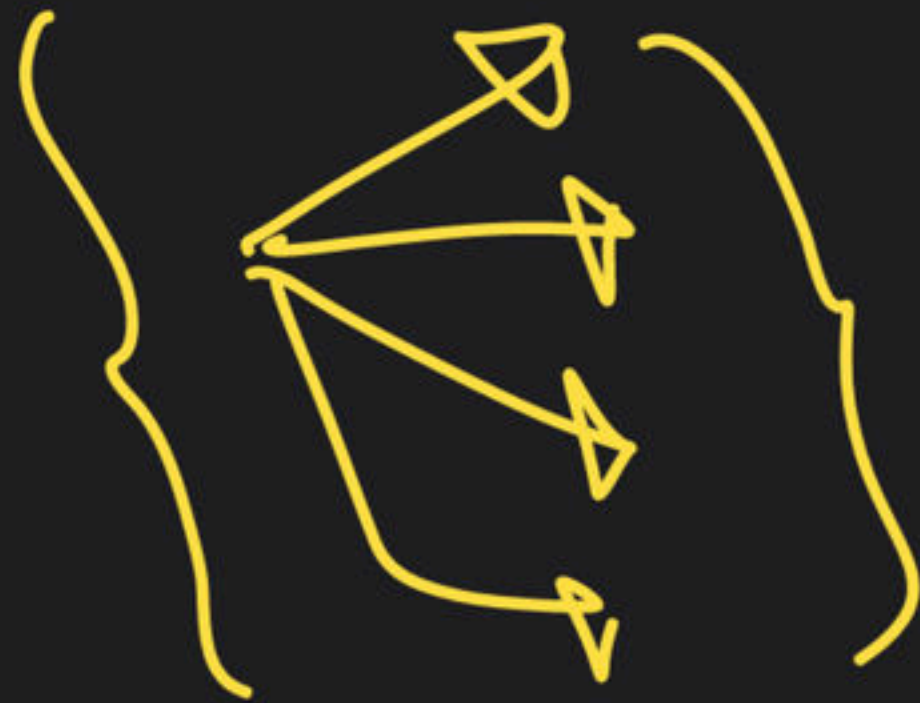




- 1) Special class ✓
- 2) Plus ✓ (8 to 10)
- 3) 10'-15 - 11'-15 (YK)

3-4 hrs  $\rightarrow$  -ve  $\rightarrow$   
 $\rightarrow$  +ve  $\rightarrow$

5 hrs



C++

07:30 - 08:30 AM

C language ✓

Robert Lafore ✓

C++ → 50% done ✓

→ C improve, pract, revision

Object, class, why?



## History

① C language

— 1972  
AT&T

Dennis Ritchie

Unix OS develop

popular → efficient  
powerful

↓  
King

② AIT : B. Stroustrup

SIMULA 1 } → 1st Object oriented PL  
SIMULA 67 }

Small/medium - C

large - OO concepts

- a) Maintenance x
- b) reusability x

↓  
OO PL

SIMULA 1, SIMULA 67  $\Rightarrow$  OO concept  
Not efficient  
Not popular, Not powerful

C  $\rightarrow$  Efficient, powerful  
No oops concept

C + oo feature (add)  $\Rightarrow$  C++





C with classes

C containing  
Object oriented  
feature.

1983: C++

(++ → increment/modify operator)  
(C with modification)

1998

2003

2011

2014

2017

2020

...

X

C++

- ① Object Oriented PL.
- ② C++ is a superset of C lang.

- a) Console based app
- b) GUI
- c) Web app.
- ☒ d) System application : OS
- e) Mobile application



↳ object oriented concept-



S/w →

a) Procedure Oriented

b) Object Oriented

C language : Procedure oriented

C++ : Object oriented.

C++ is a  
Superset of

C



Also procedure oriented

OOps → concept

C, Java, Python, C++

C  $\Rightarrow$  functions

```
int main() {
```

```
    |  
    |  
    |  
    |  
    |
```

```
}
```

small ~

medium ~

Task/Project

$\Rightarrow$  ✓

Project

- ① Bank
- ② Hospital
- ③ Institute

Procedure  
→  
oriented

- a) Account opening
- b) Balance
- c) Withdrawal
- d) Acc-update
- ⋮

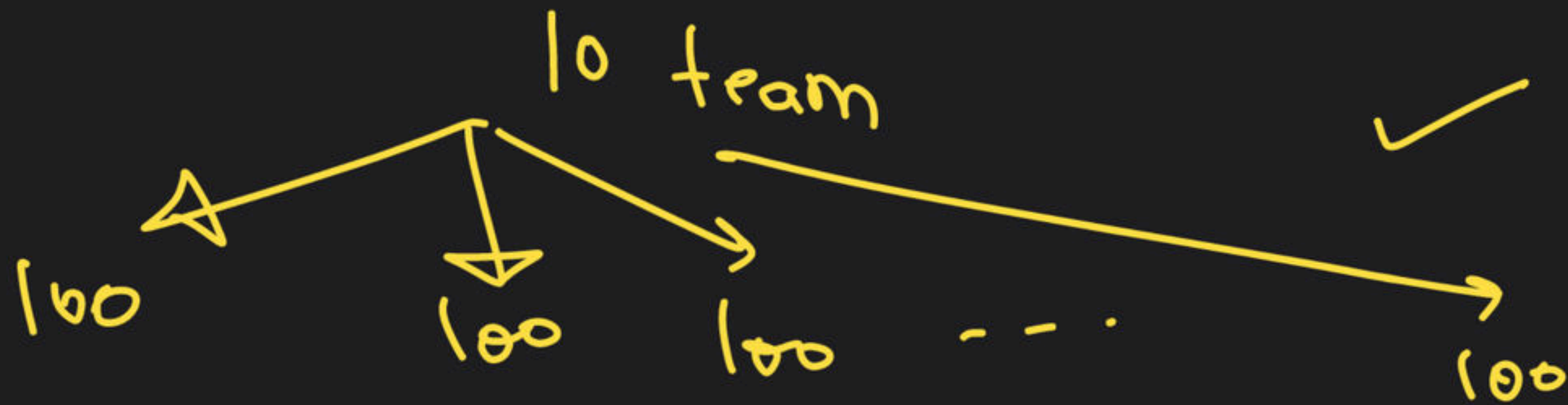
many such tasks

→ 1000 tasks

1 function — 1 tasks



Project is a coll. of various functions.



Why not for large projects?

① Inter-related?

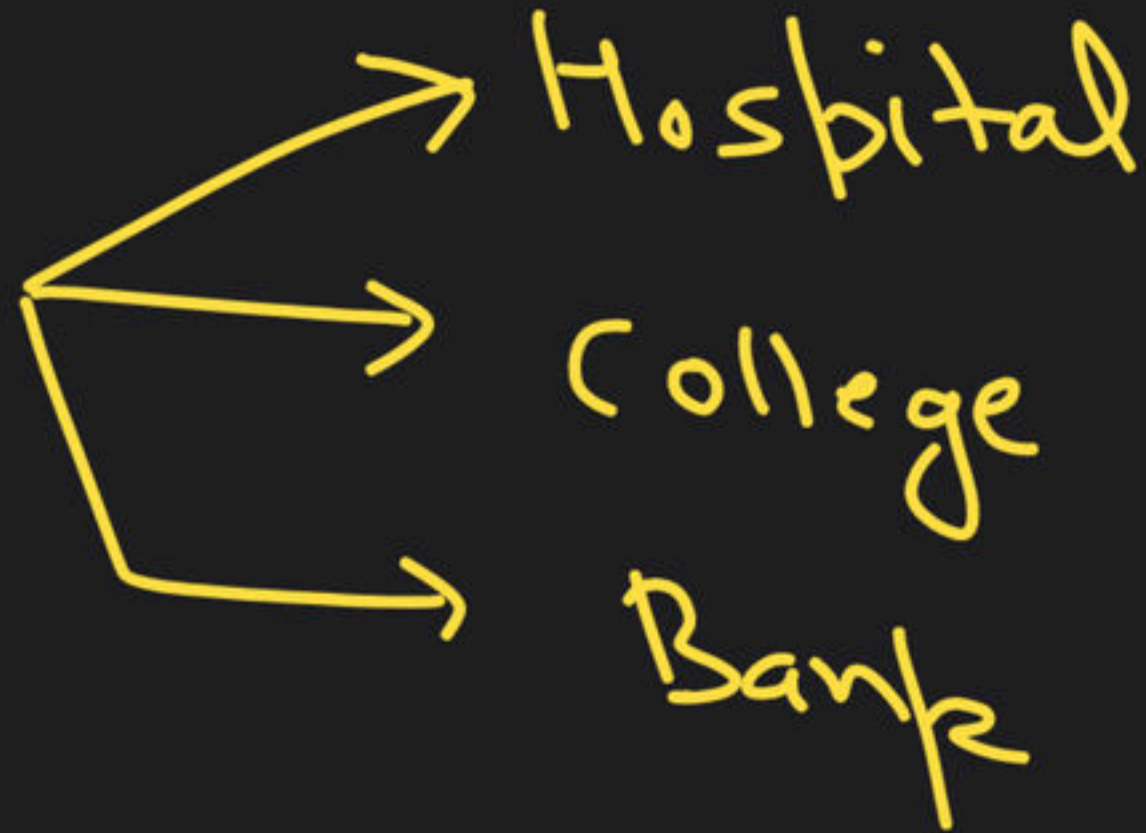
② Maintenance

③ Code complexity

④ data security ✓✓

S/W

Client / user /  
Customer



→ a) Doctor  
b) Patient

→ a) Teacher  
b) Student



Teacher : A group

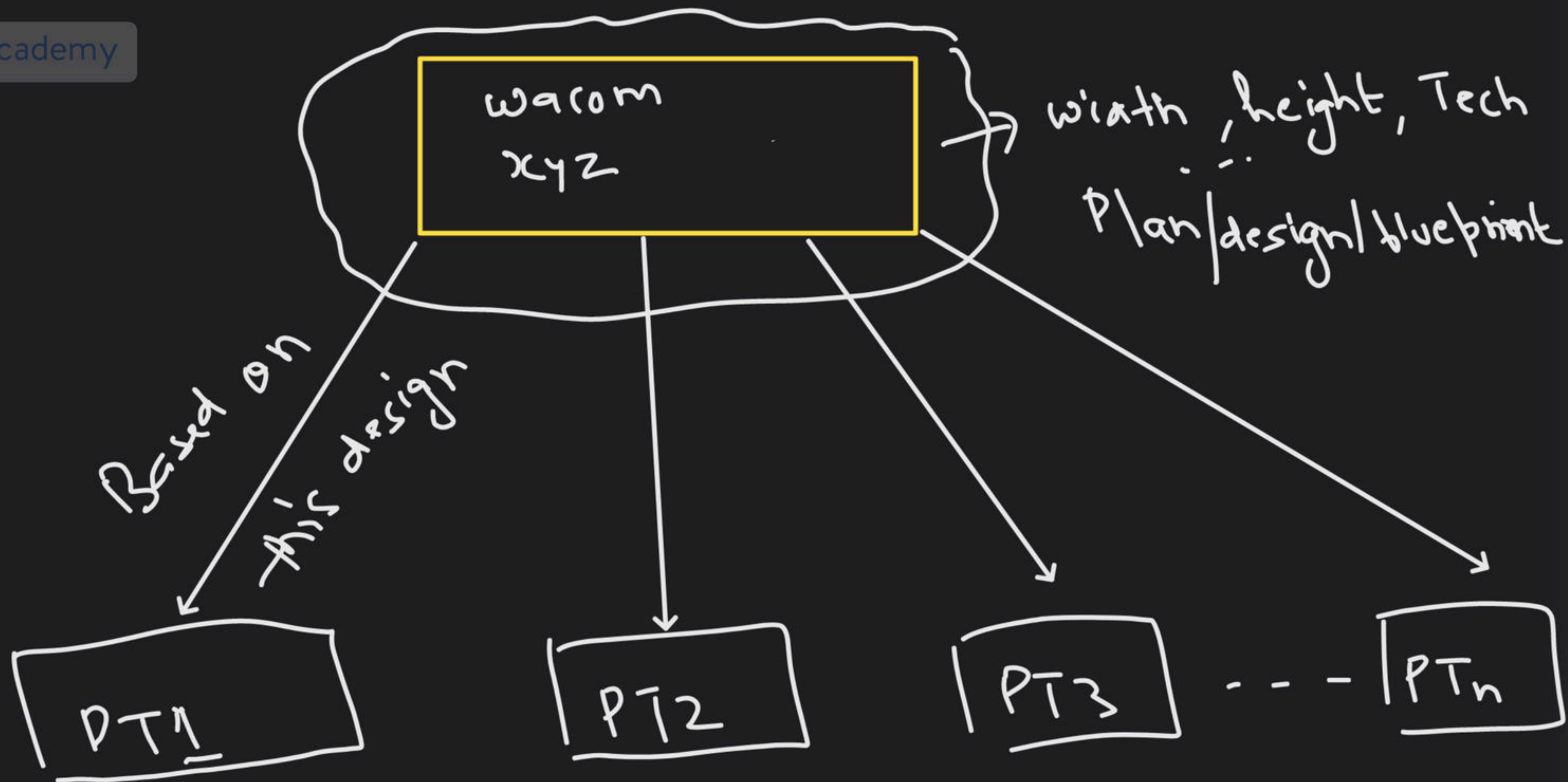
- 1) Pankaj sharma is an example of Teacher.
- 2) Rahul Joshi is an ex. of Teacher
- 3) Anrit Doyla is an ex./instance of Teacher

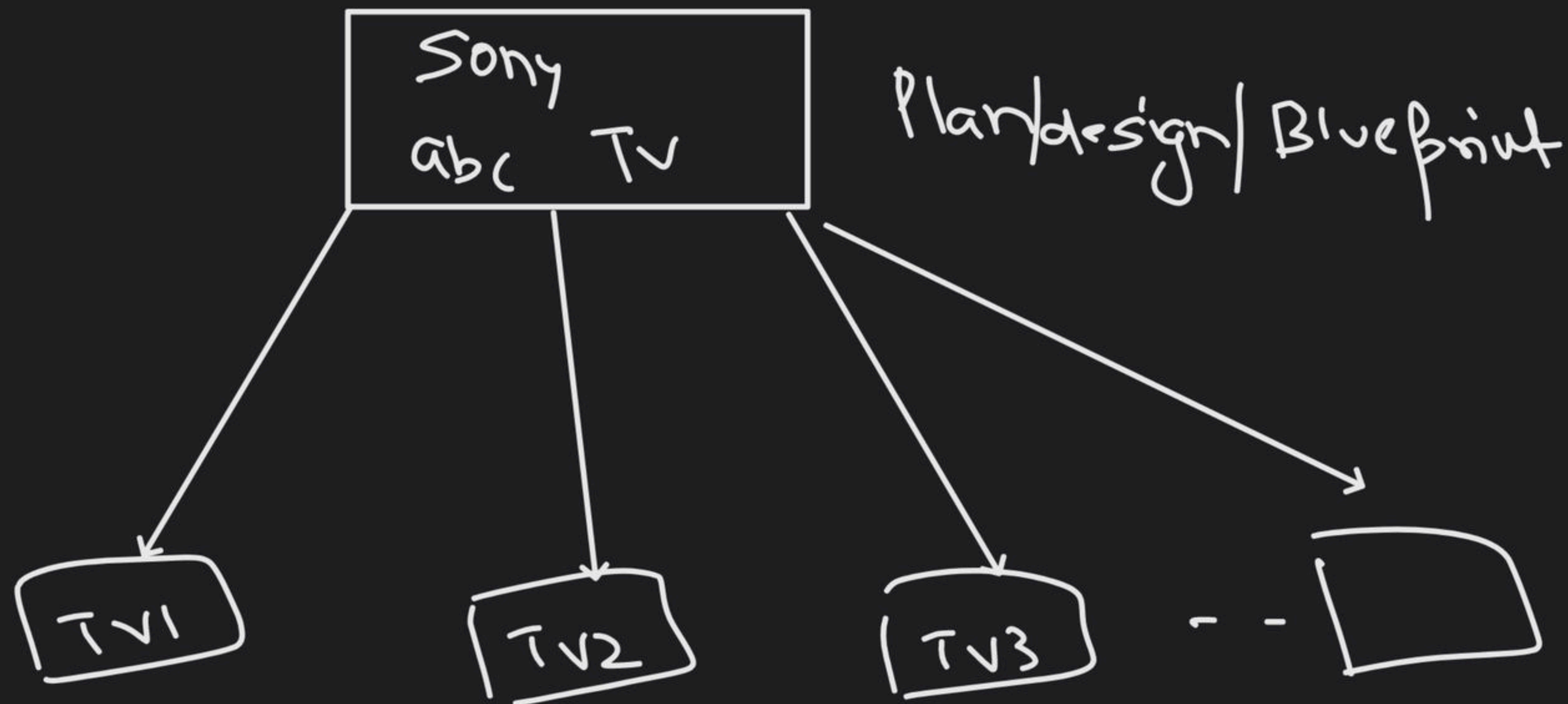
Student :

- 1) Nilesh
- 2) Saibal
- 3) Aditya

Object/class







Once a class  
is created



Any no. of  
objects can  
be created

B1

B2

B3

--

Bn

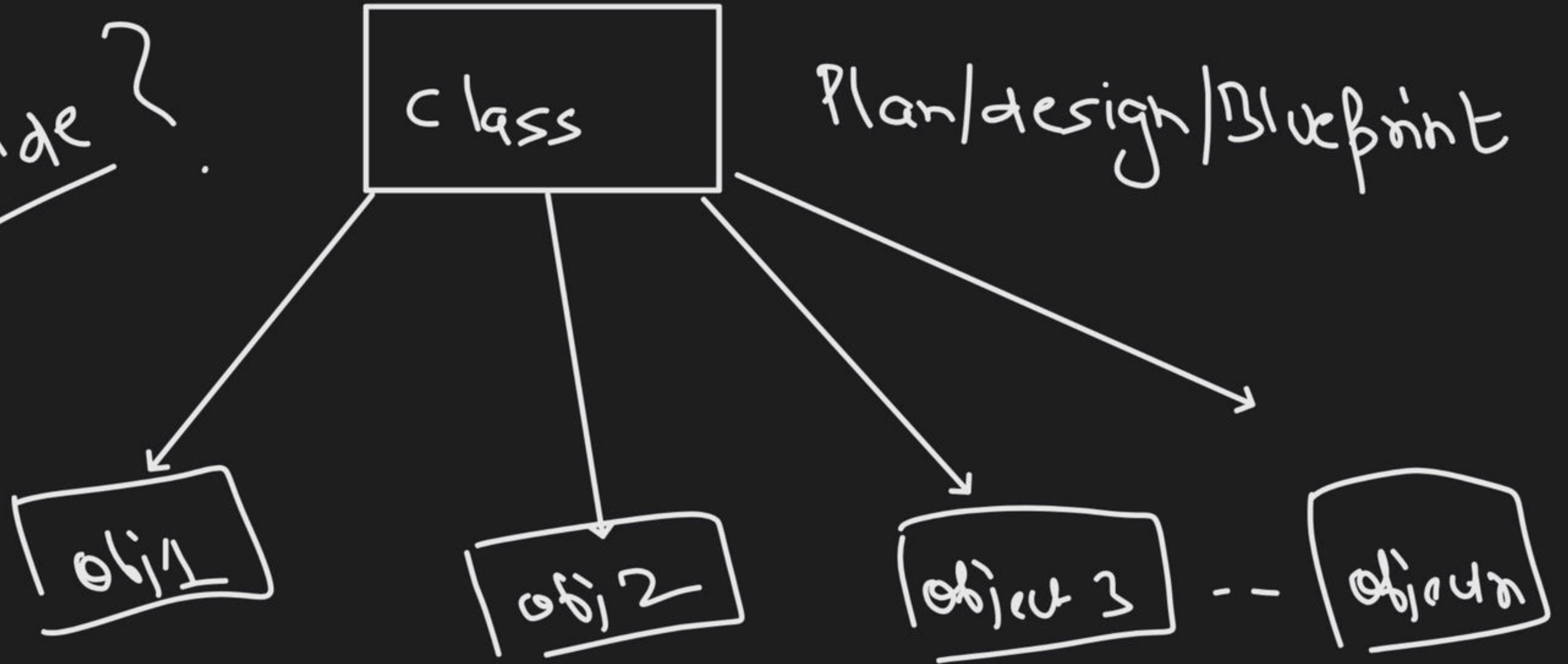
Hero Honda  
243

Class

Plan/Design/Blueprint

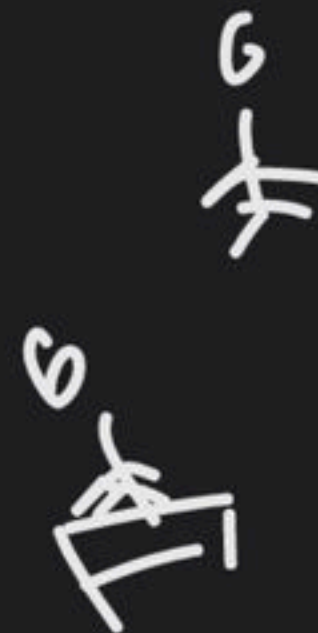


decide?



Teacher

- ① Pankaj Sharma
- ② Ankit Doyla
- ③ Rahul Joshi



## attributes

## Teacher

Name  
Age  
Qualification  
Exp.  
Marital Status

attributes  
in which  
we are  
interested  
in

Per's Name X

GF X

Name iit, Expt. iit

## actions methods / functions

playing() X

crying() X

Eating() X

Teaching() ✓



Monday to Friday



C++





# THANK YOU!

Here's to a cracking journey ahead!