

~~PL~~ Introduction to different programming paradigm, characteristics of OOP, Class, Object, data member, member function, structures in C++, different access specifiers, defining member function inside and outside class, array of objects.

~~Code~~ Concept of reference, dynamic memory allocation using new and delete operators, inline functions, function overloading, function with Default arguments, constructors and destructors, friend function and classes, using this pointer.

~~Code~~

What is OOP?

Why?



OOPS

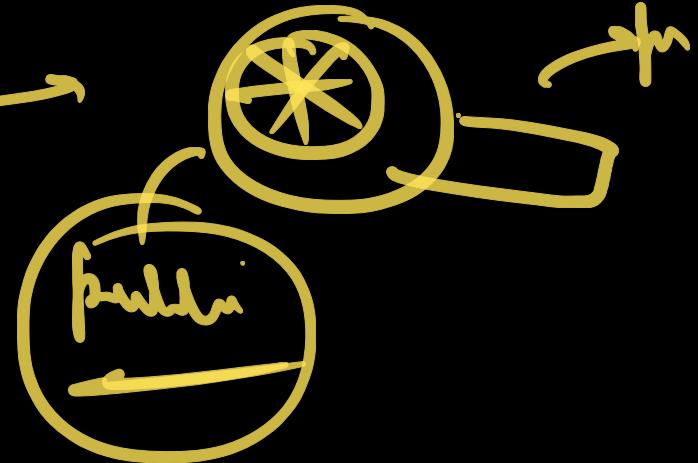
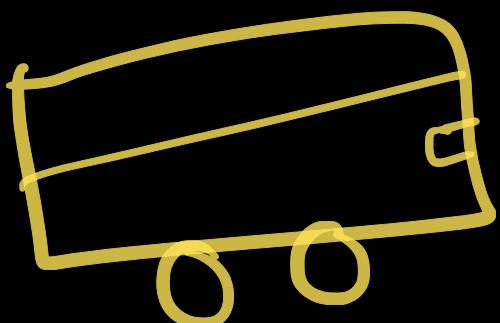
language
datatypeful

q, q - int
c, o - char
Strong - Strong } q q
flow } cflow

Class



never defined datatype

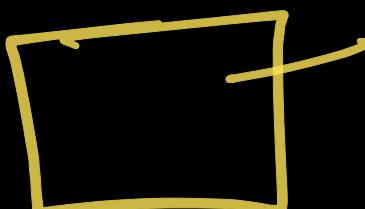


Variables

- functions



Attributes

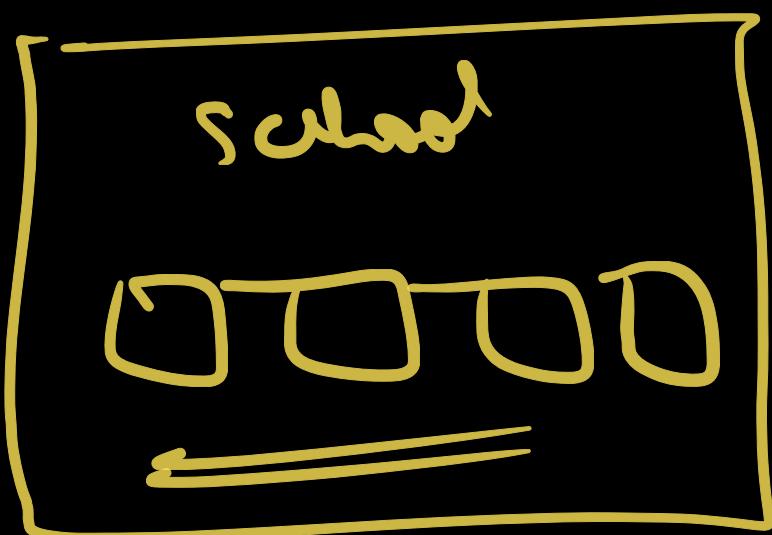
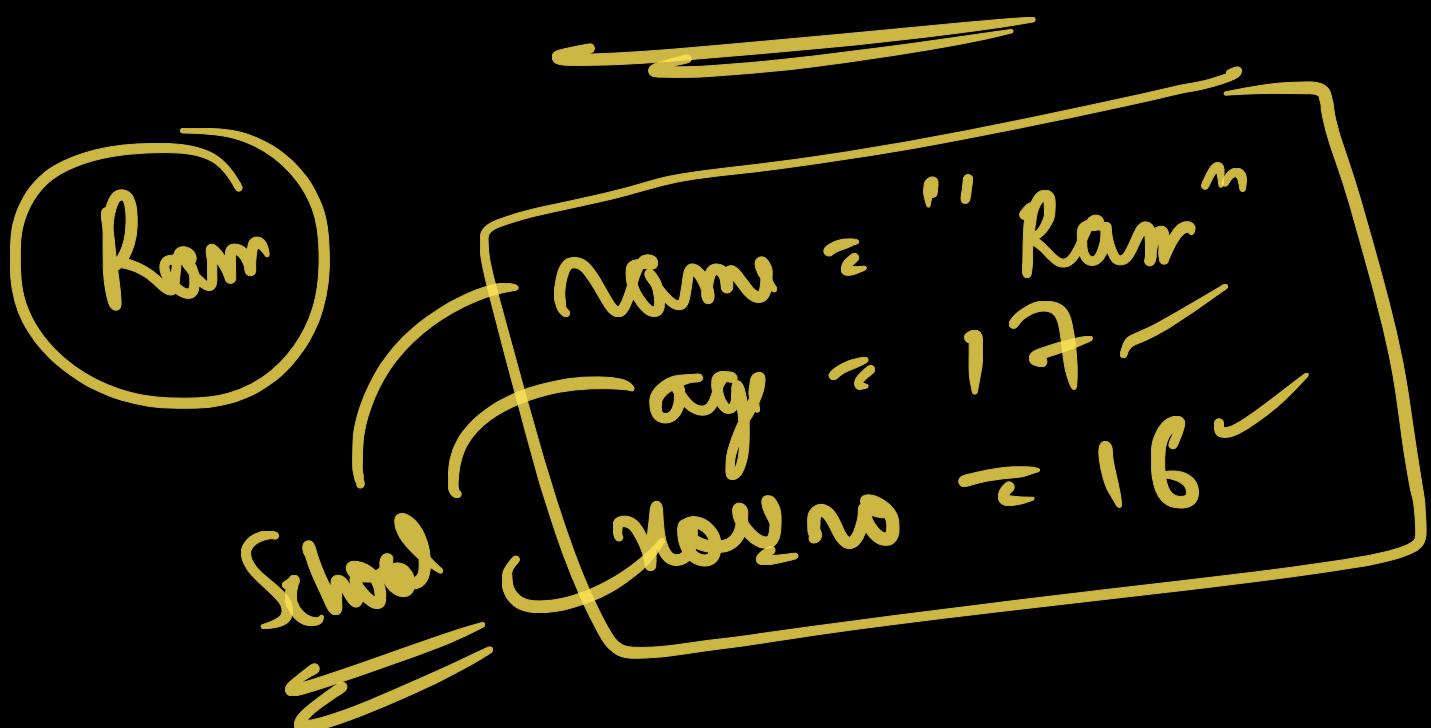


"I have"

long name,
int age,
and address.

attribute have rebeta hai
"But"

Attribute Ji Value



Programming Paradigm

(Programming
the collection)

Imperative

↓
how?

↓
what

Declarative

↓
what?

↓
steps

Imperative
Prog

Procedural

Procedural

Attack

Eg: Clay

Object
Based

Roots

Object

Data

Fields

Code

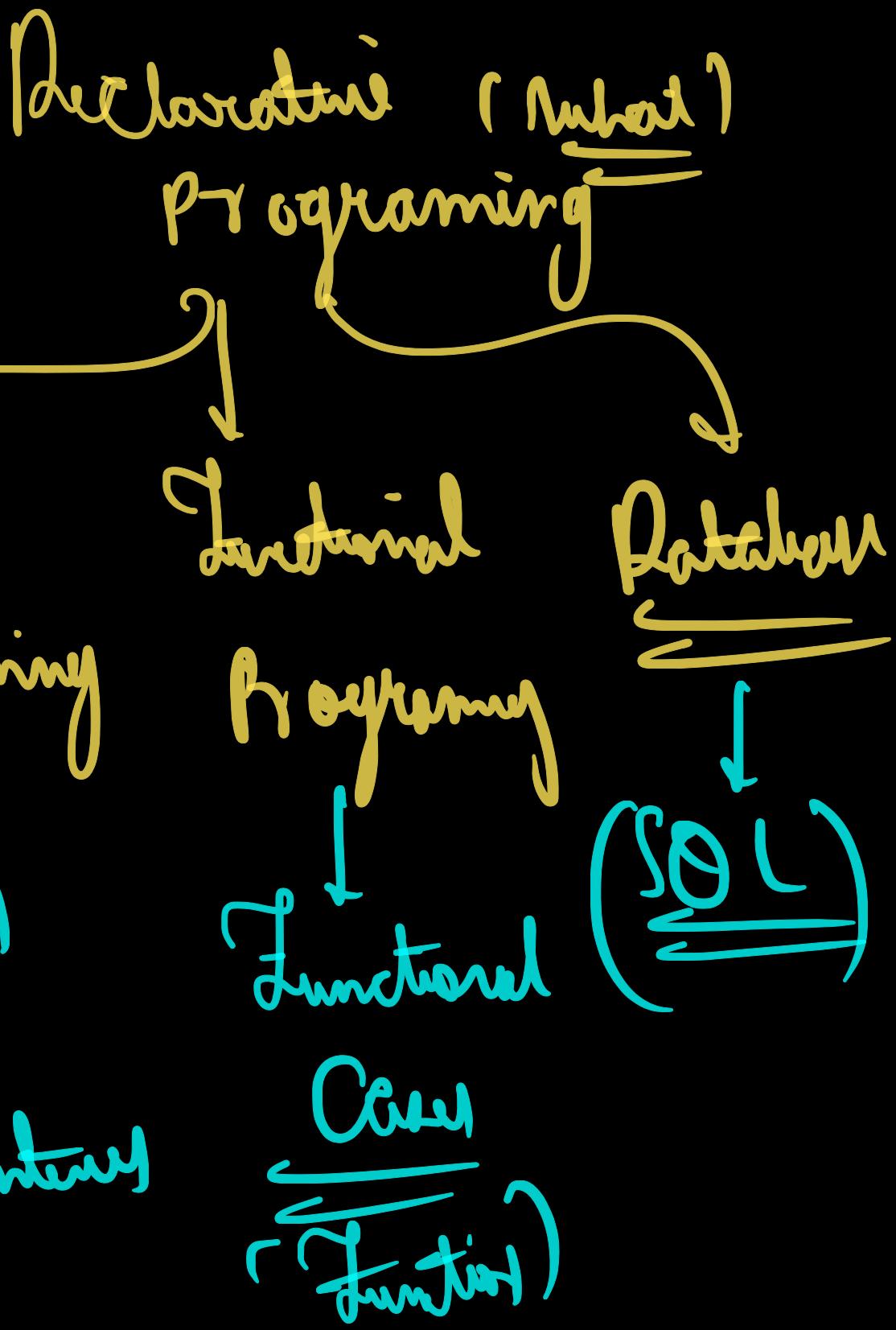
Procedure

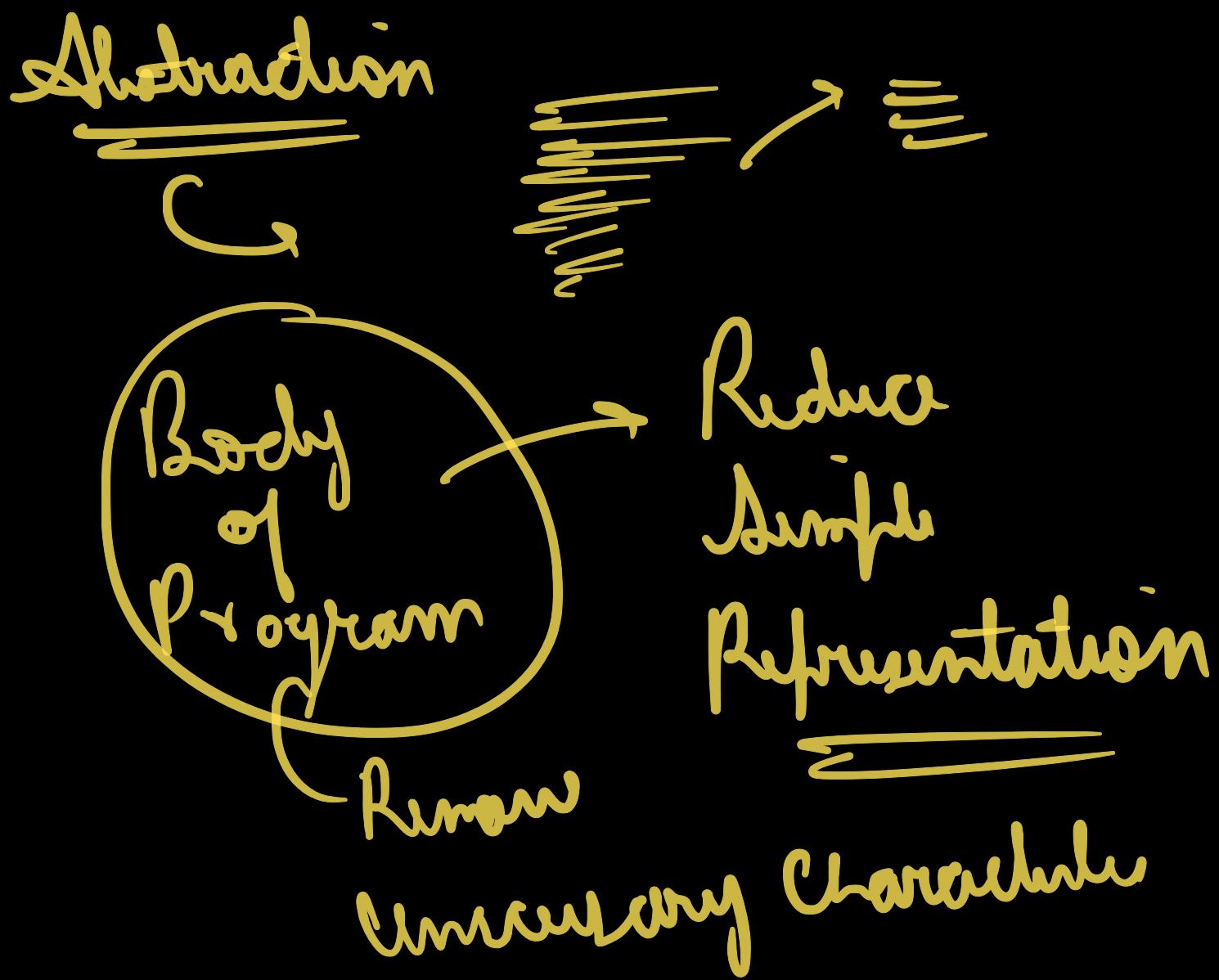
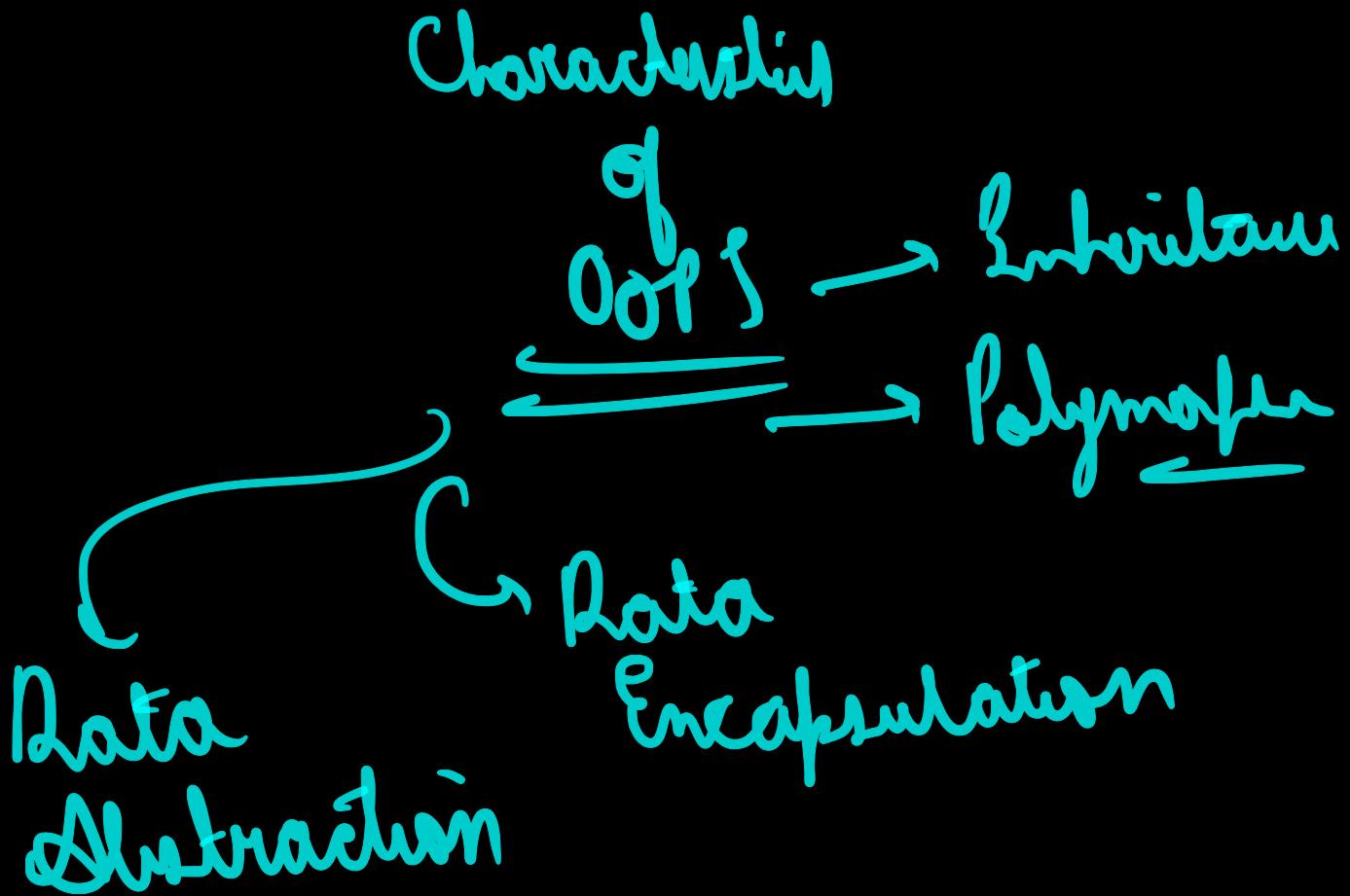
Parallel
Prog

Multiplicity

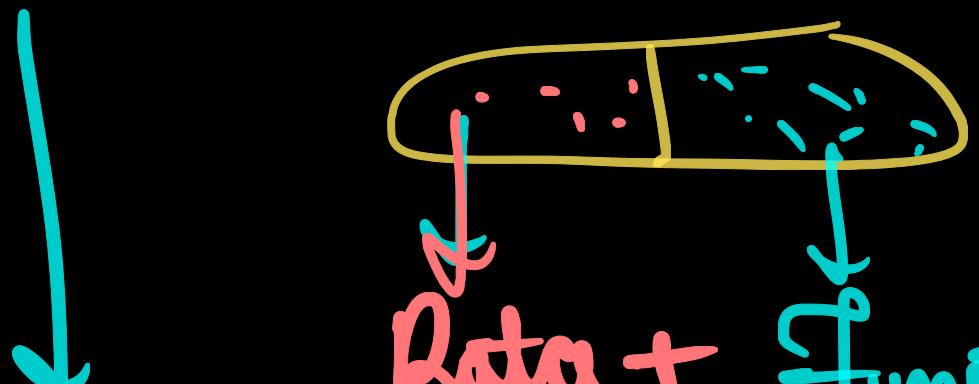
Jane

(C++ , Java)





Data Encapsulation



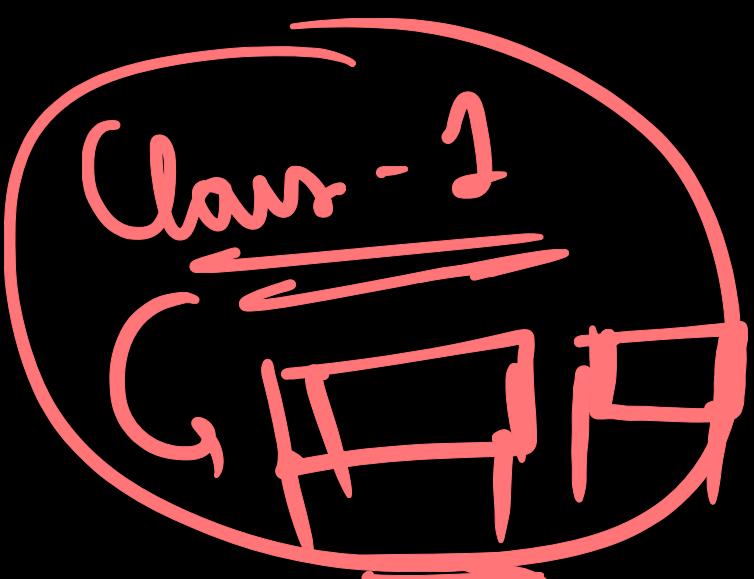
Data + Function

Implementation

of Data Abstraction

Inheritance

C → Parent



Class - 2

(Code ↓)

(Code Reusability ↑)

Polymerphism

C Slightly to take
over their own
form.

Run Time

↓
Virtual
function

Compile Time
Functional
overloading
C Operator
overloading
≡

Functional Overloading

C Function name

C Same

Function Parameter

C Different

Operator Overloading

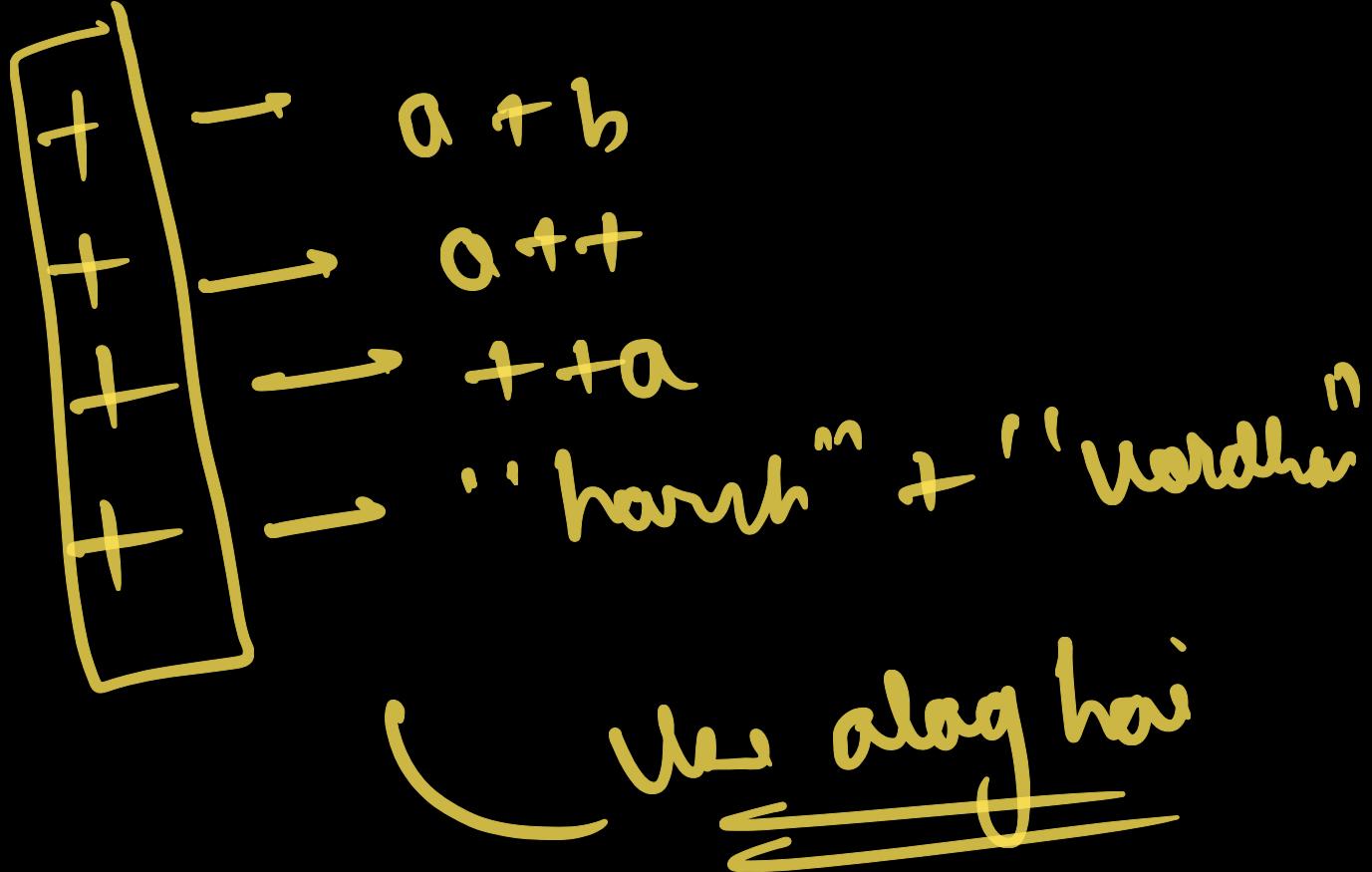
C Operator - Same

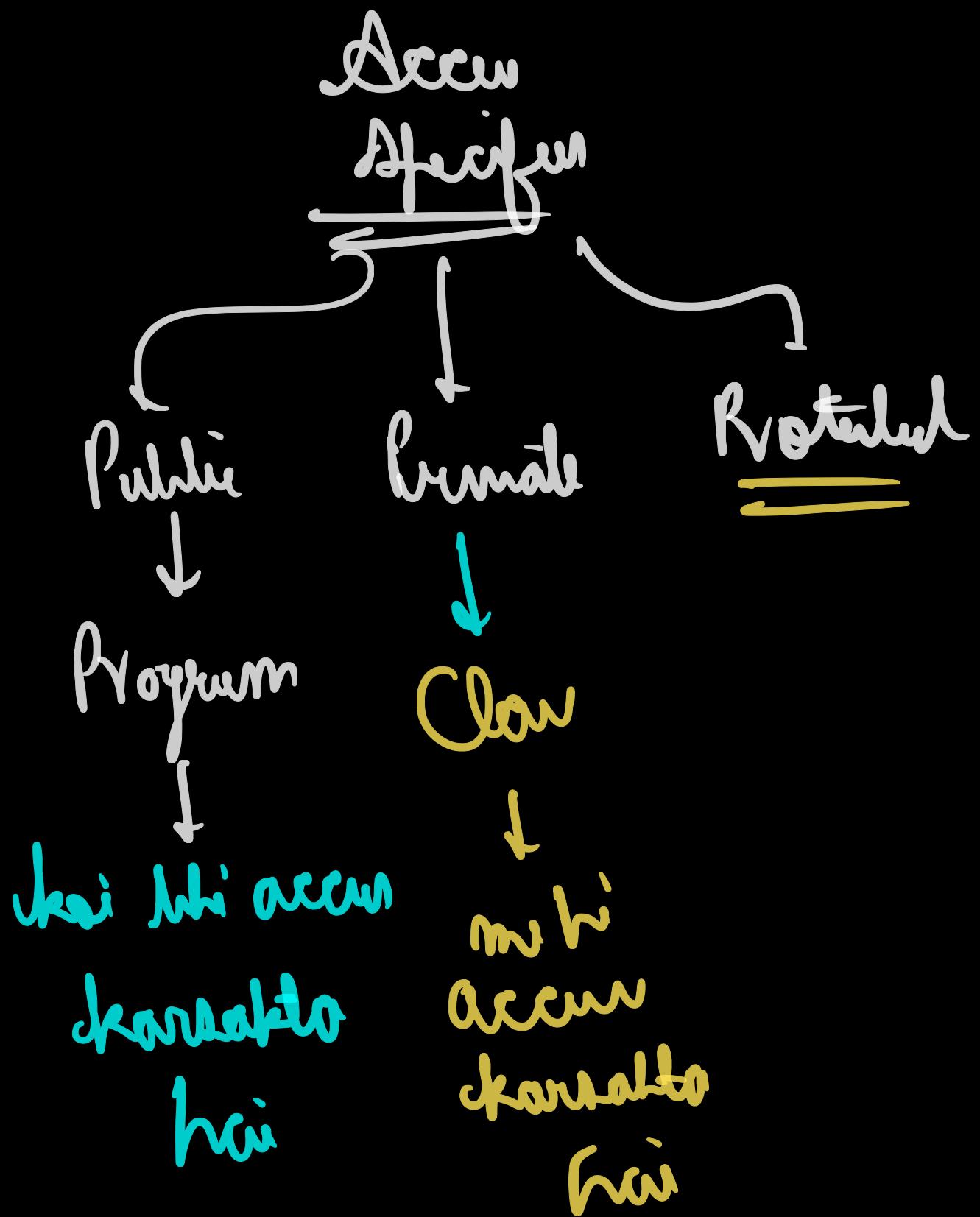
' But

User we

algo algo

range





Structures

→ User defined Datatype

struct Struct_name

{
 String name;
 int age;
 int score;}

};

01 - name = "Ram"
01 - age = 12
01 - score = 16

f(m) → Class member
C Class definition
←

Concept of Reference



alternative name
for Existing
Variable



int & n = 10;

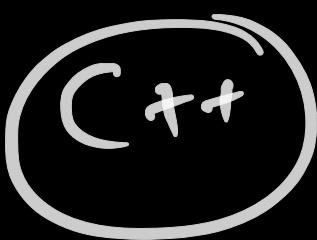
ref = 10

int & ref = n;

n = 10

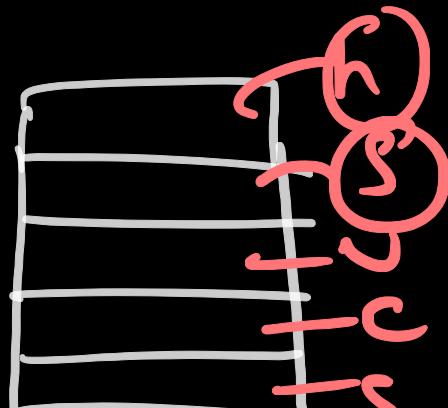
Dynamic Memory allocation

→ Run time



new

delete



RAM

New Operator

→ Request for Memory
allocation

↓
Memory
available

in free list

available

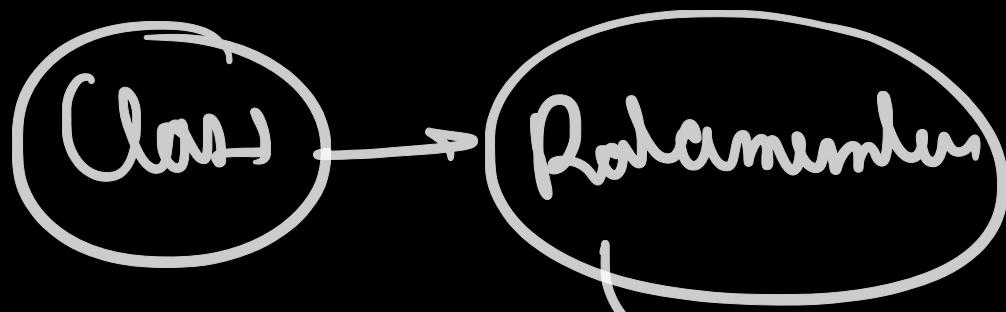
→ Allocate memory

Address of) return

newly allocated unit $\rightarrow p$

Constructor

↳ Banana (construct)



Value constructor

Parameterized
Constructor
()

↓
Default
Constructor
()

Copy
Constructor
() ()

Destructor (~)