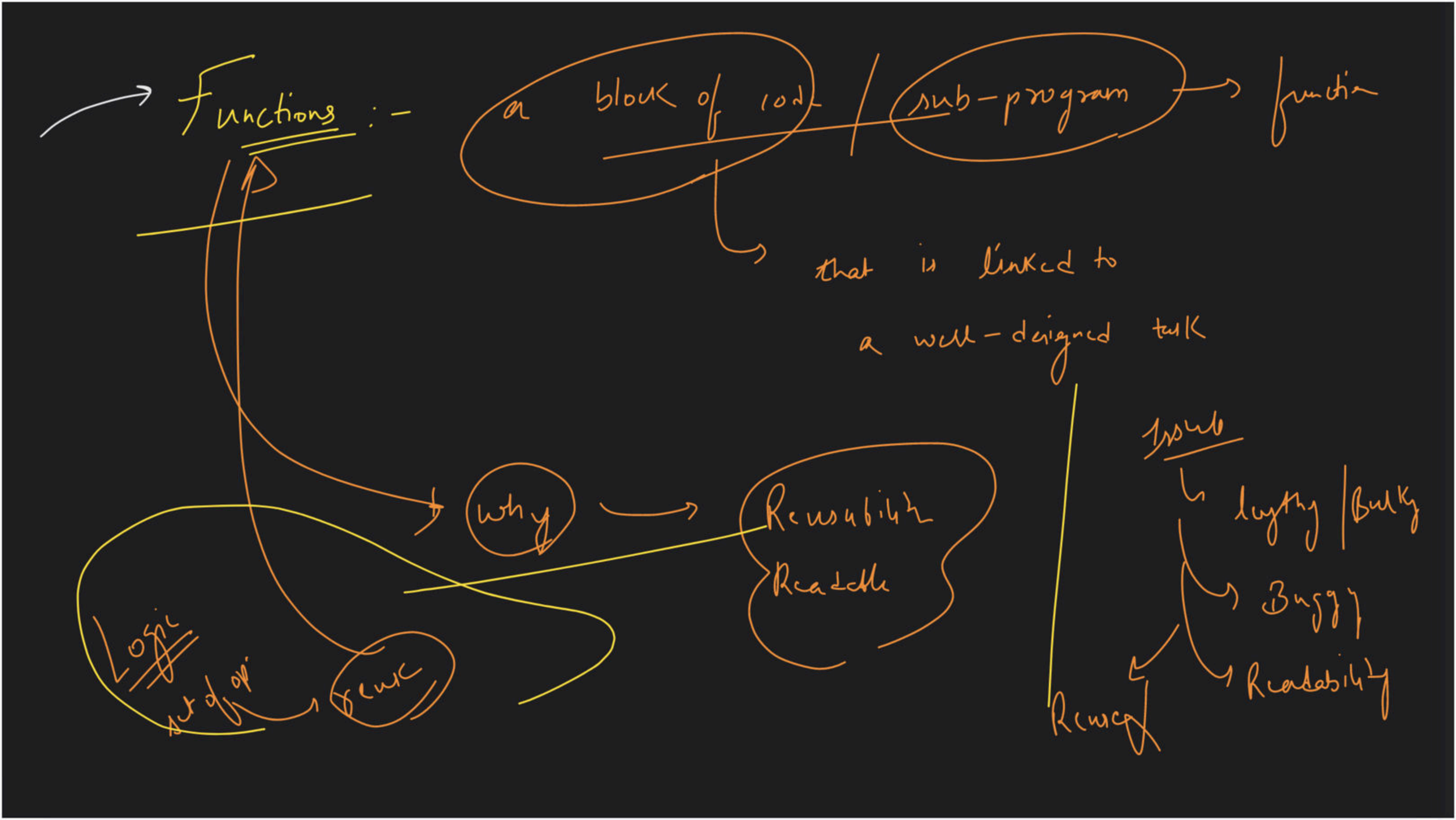
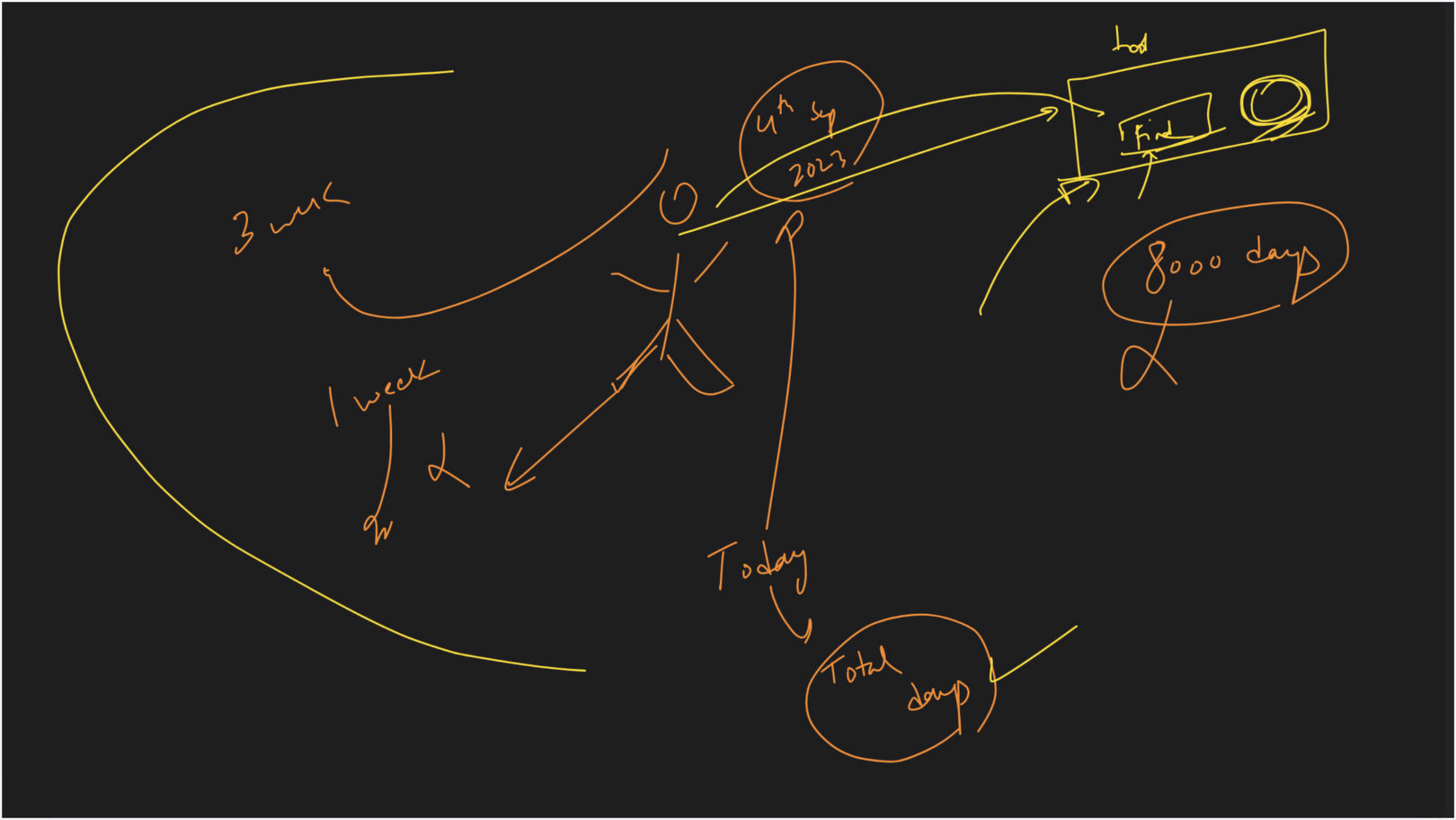
Functions

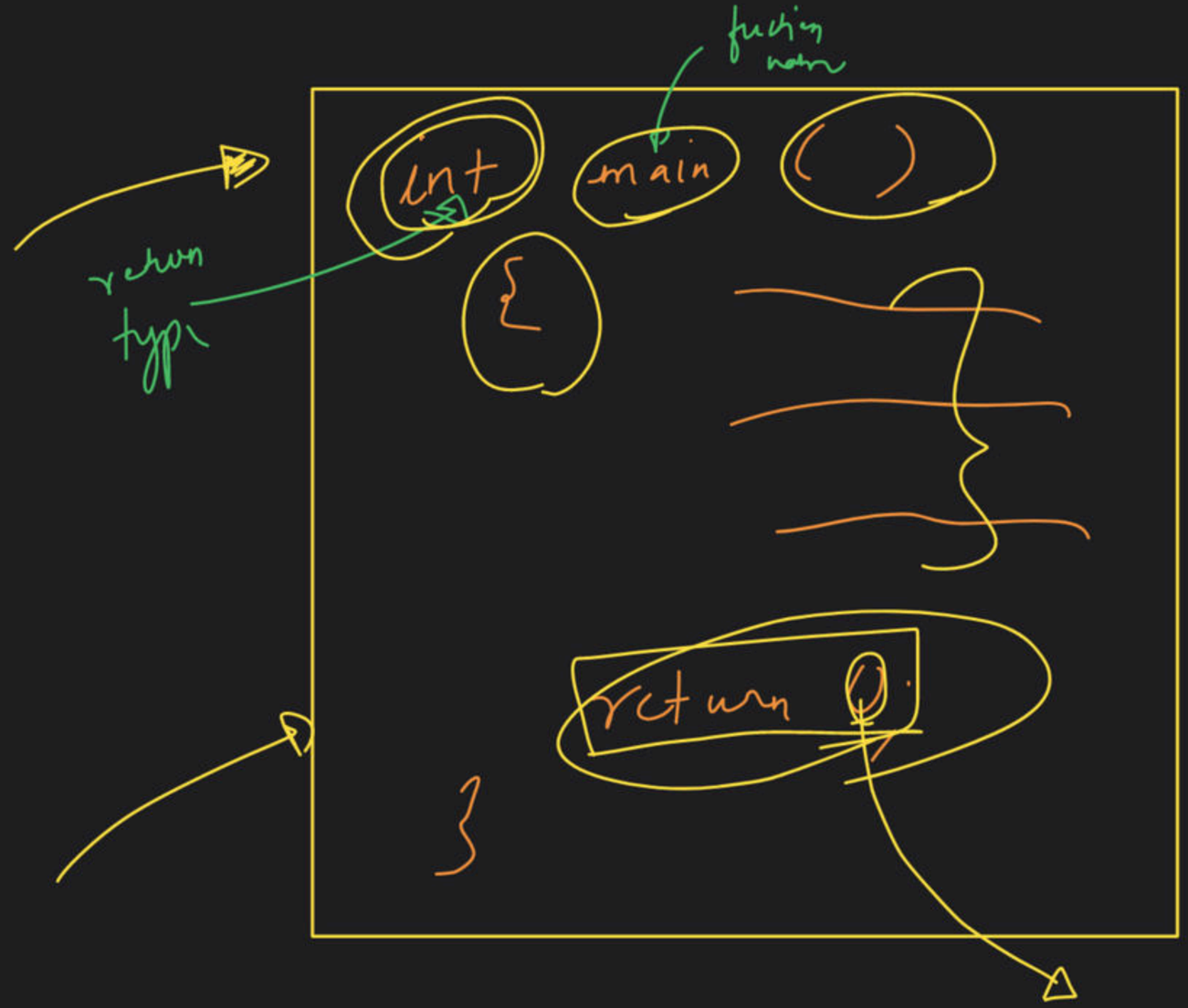
Special class

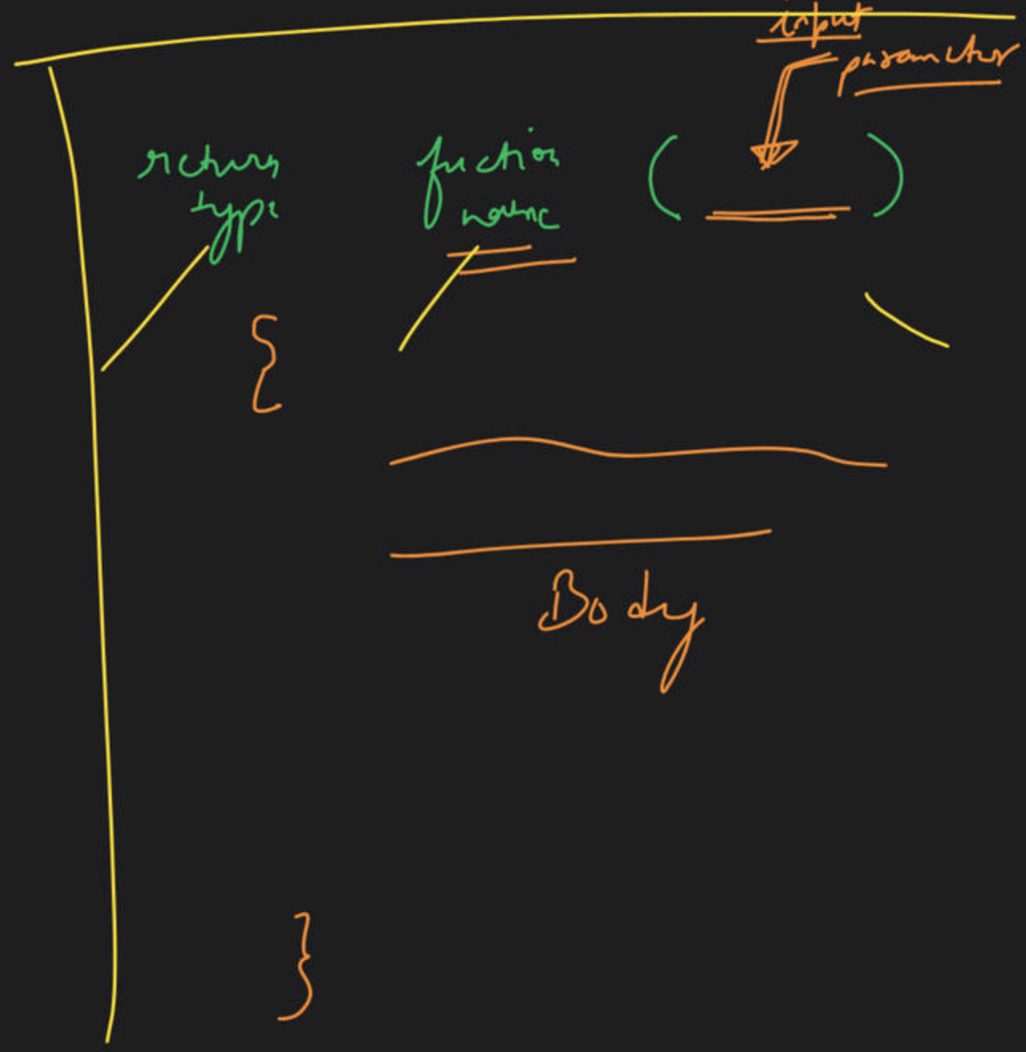
Love Babbar • Sept 4, 2023

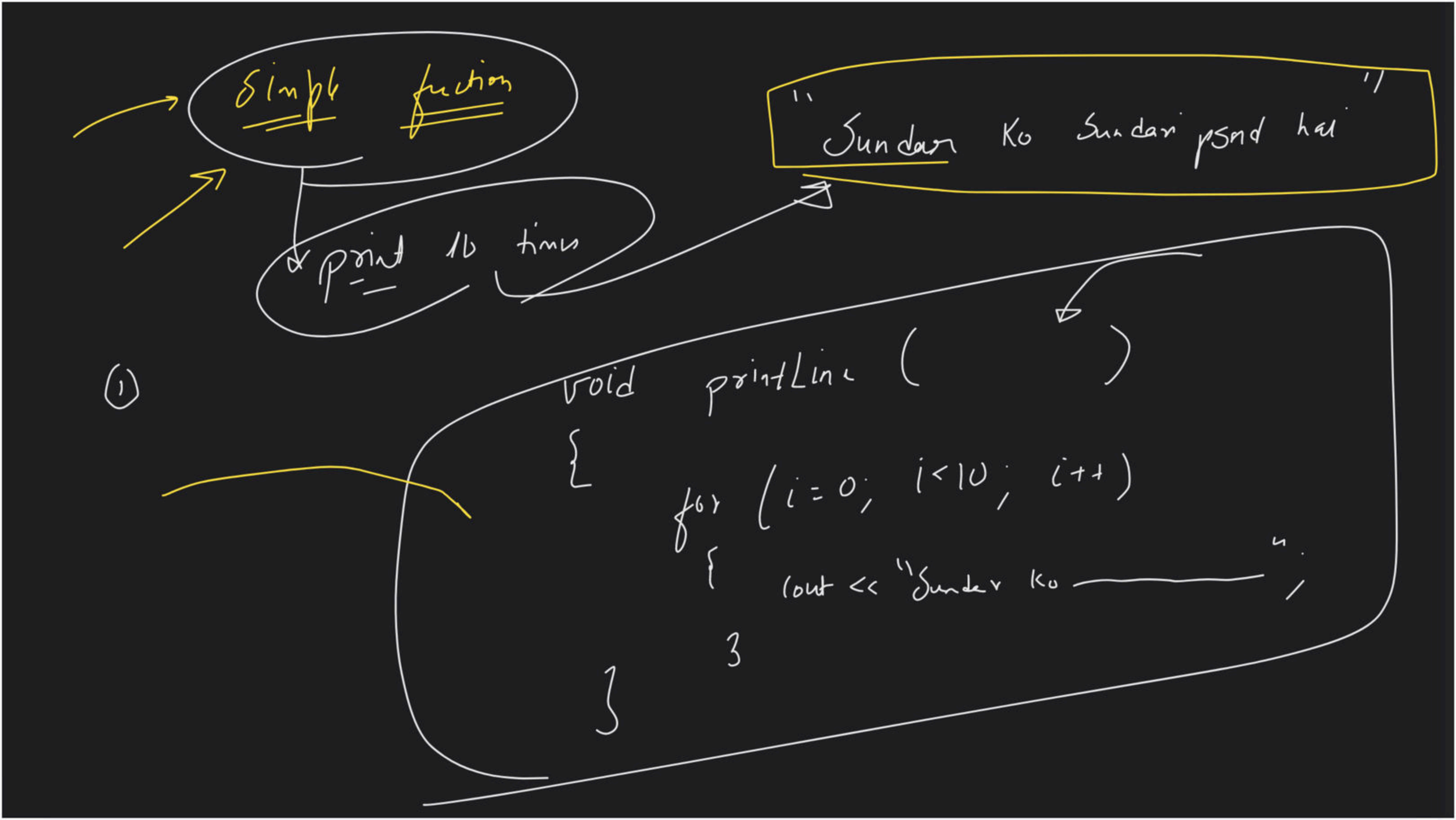

Functions :-
a block of code / sub-program → function
that is linked to
a well-designed task
why
Reusability
Readability
Logic
Syntax
Error
Issue
Logical / Bulky
Buggy
Readability
Reuse

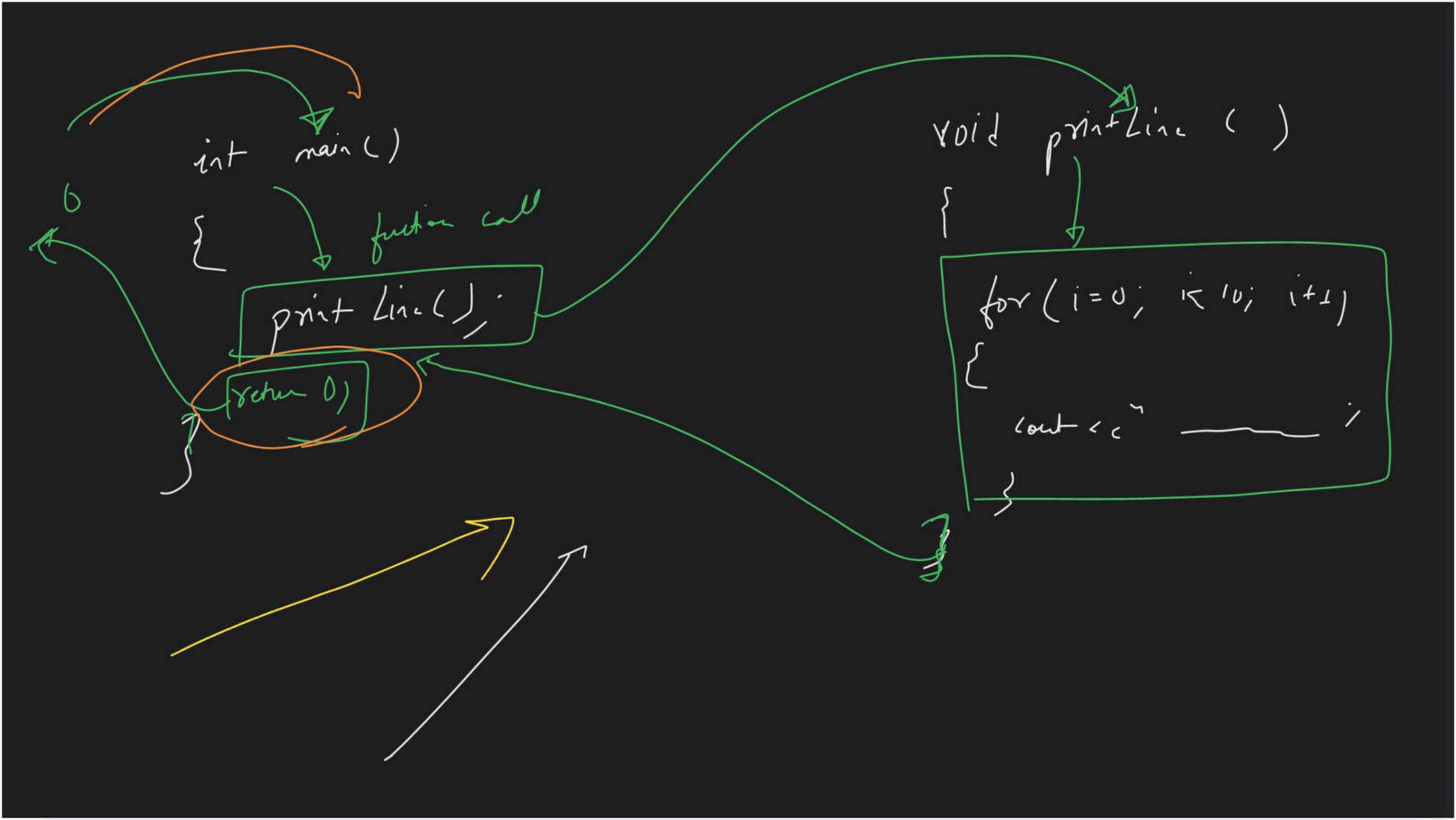


3 week
1 week
4th Sep 2023
Today
Total days
8000 days

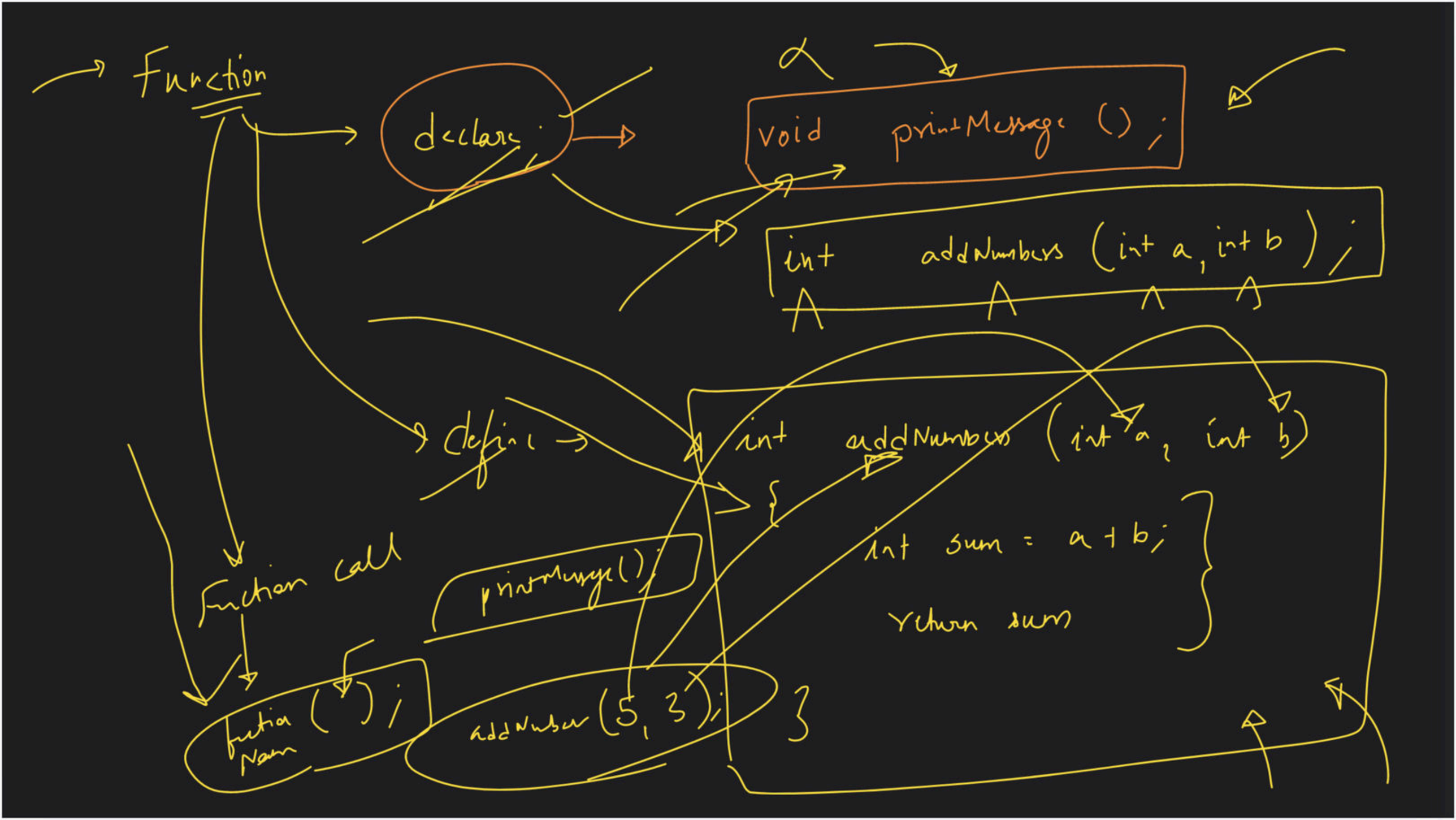

function name
int
main
( )
return type
{
return 0;
}

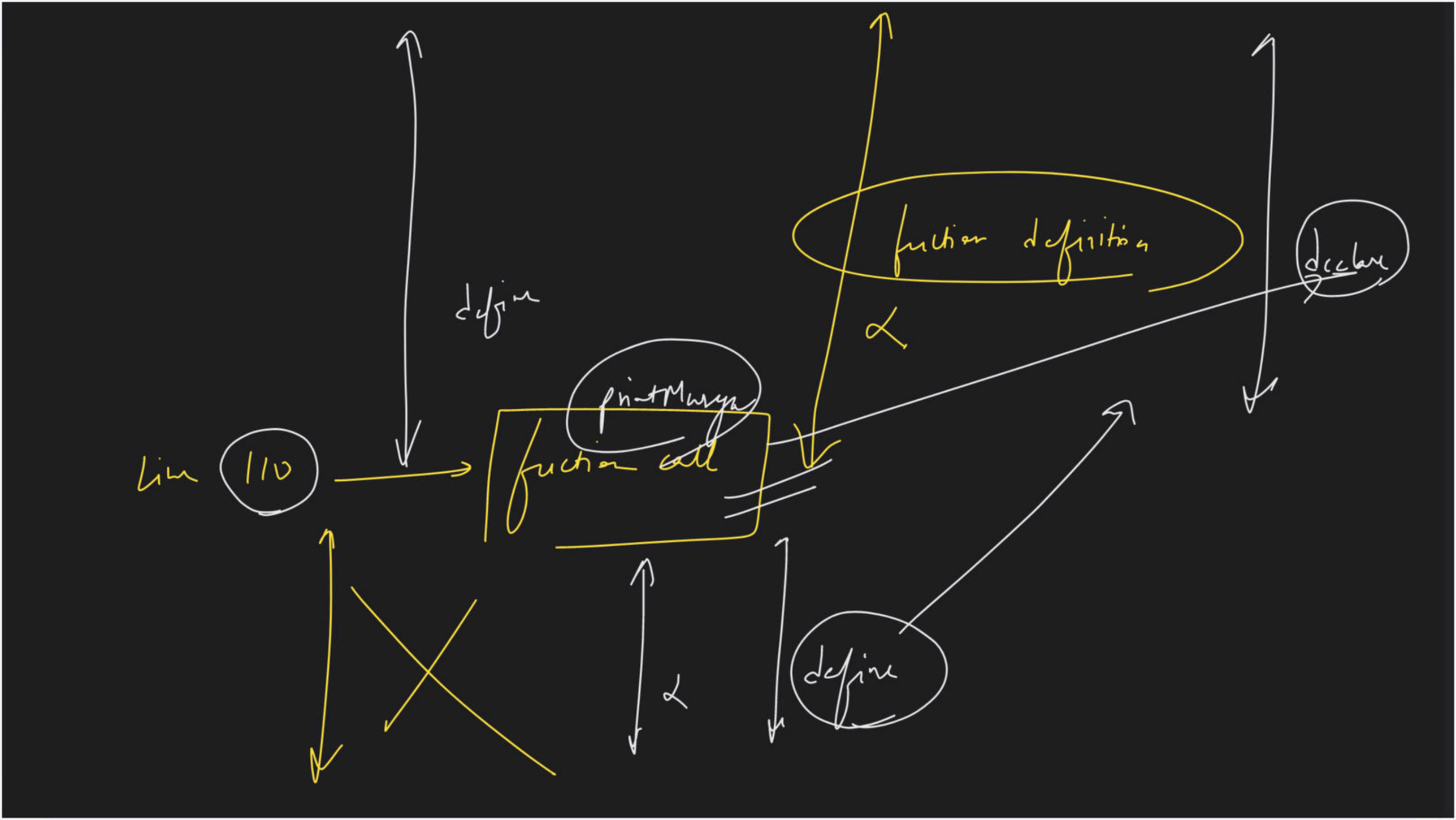

input parameter
return type
function name
( )
{
Body
}

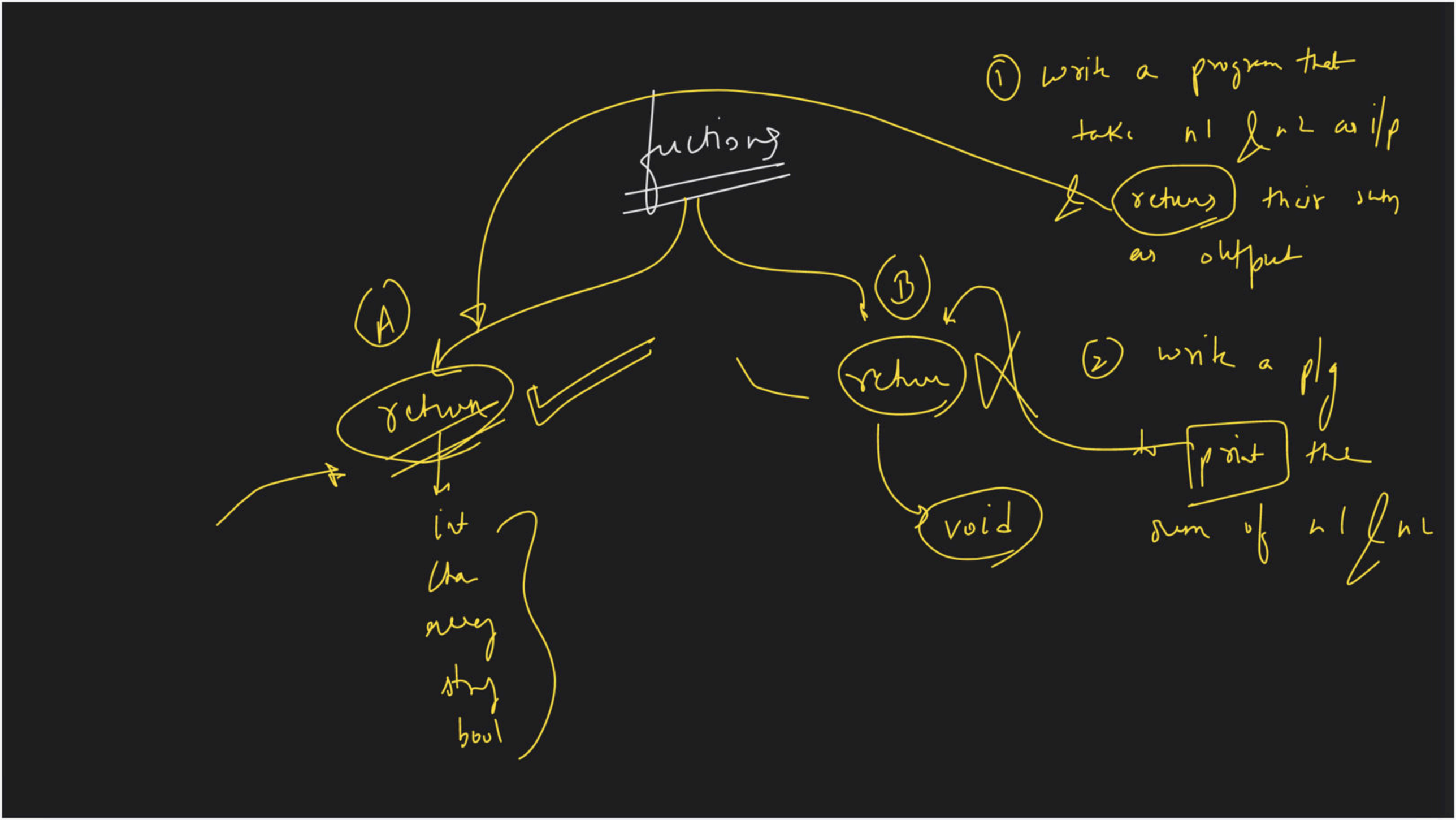

Simple function
print 10 times
"Sundar Ko Sundari pasnd hai"
(1)
void printLine ( )
{
for (i=0; i<10; i++)
{
cout << "Sundar ko ——————— ";
}
}

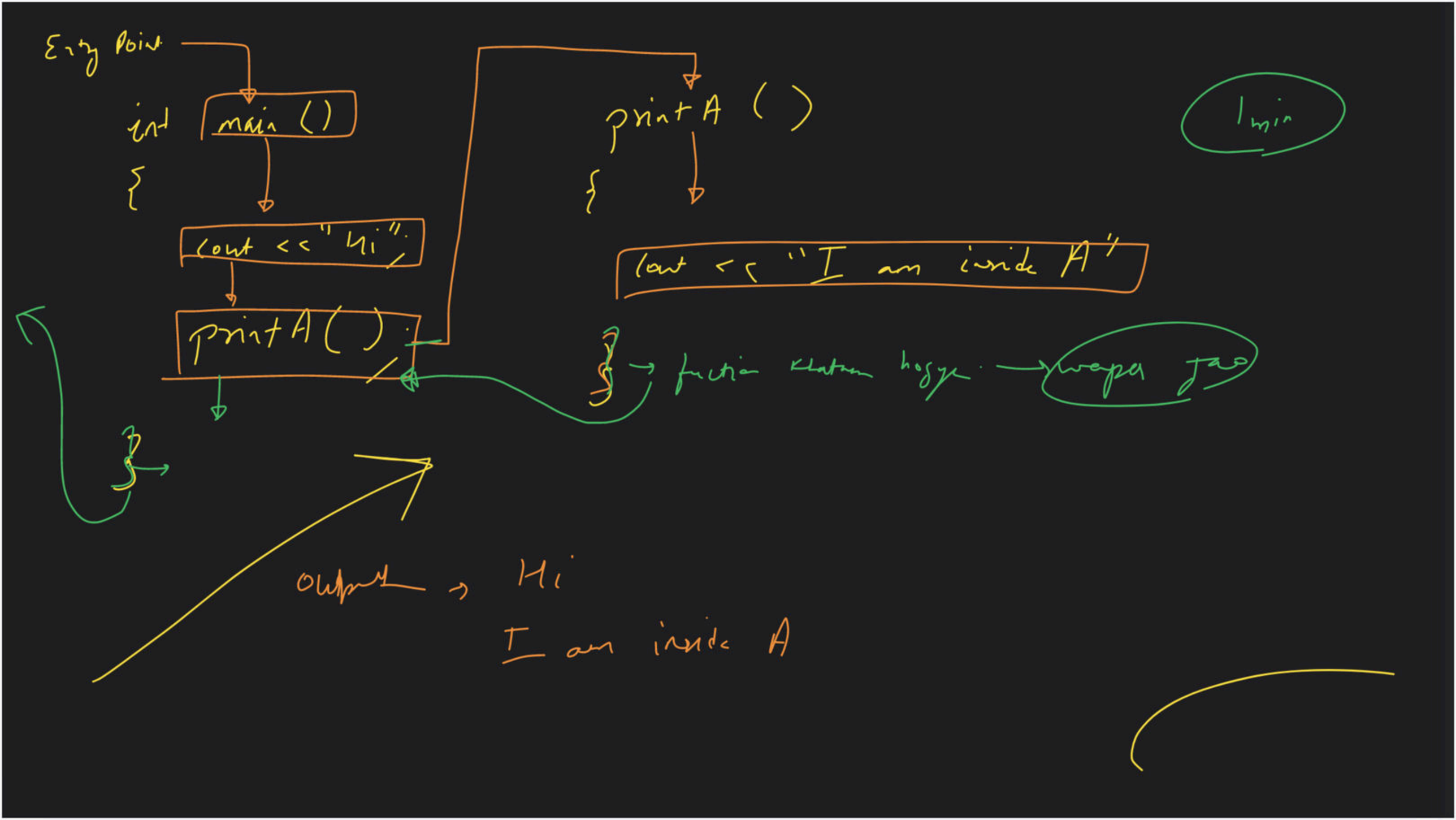

int main()
{
printLine();
return 0;
}
function call
void printLine()
{
for(i=0; i<10; i+1)
{
cout << "
;
}

add 2 numbers
fn


Function
declare
void printMessage ();
int addNumbers (int a, int b);
define
int addNumbers (int a, int b)
{
int sum = a + b;
return sum
}
Function call
printMessage();
functionName();
addNumber(5, 3);


function definition
declare
define
printMessage
function call
Line 110
define


functions
A
return
int
char
array
string
bool
B
return
void
① write a program that take n1 & n2 as i/p
returns their sum as output
② write a p/g
print the sum of n1 & n2



Entry Point

int main ()

{

cout << "Hi";

printA ();

}

printA ()

{

cout << "I am inside A"

} → function khatam hogya → wapa jao

1 min

output → Hi

I am inside A

Function Call Stack :-

- function call
- local variable
- Kr func → Ki func
  Ko call Kie
- return value

Stack → ?

Last-in first Out

LIFO

Discord → ?

```
int main ()
{
    Cout << "inside main";
    printA ();
    Cout << "Back in main";
    return 0;
}
```

```
void printA ()
{
    Cout << "inside A";
    Cout << "going back to main";
}
```

o/p → inside main
inside A
going back to main
back in main

function call

add entry

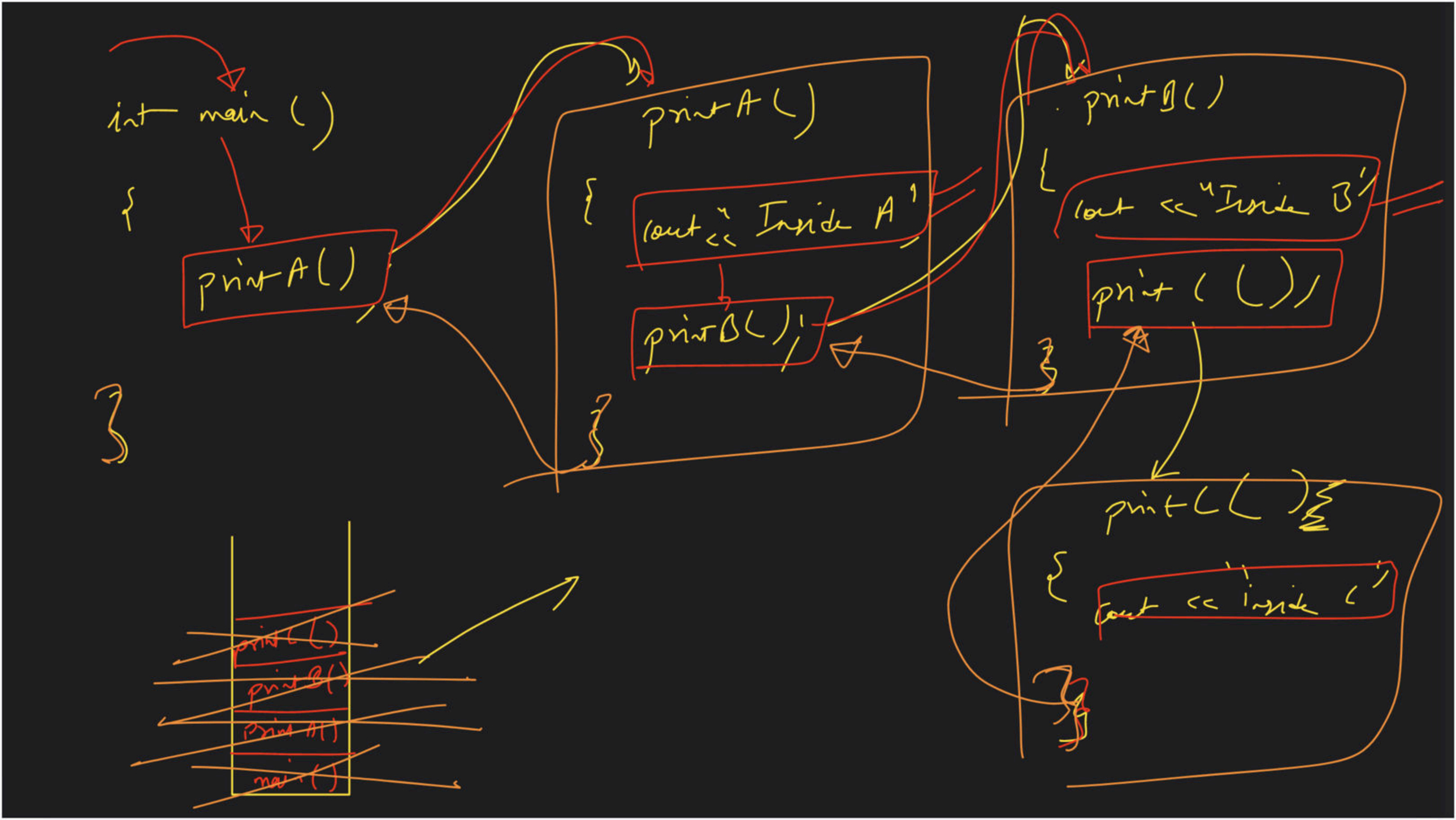
function body

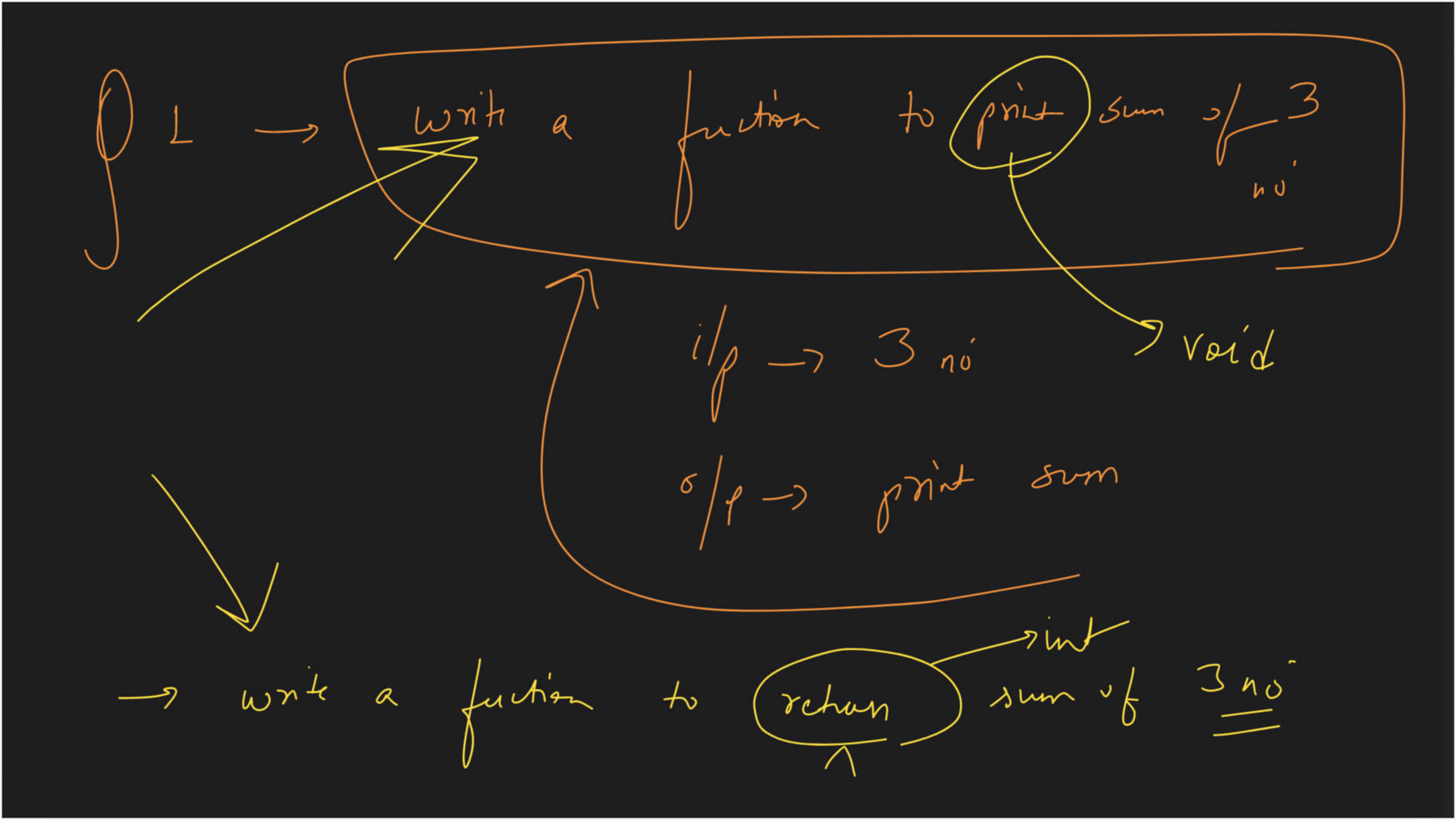
Sanapt

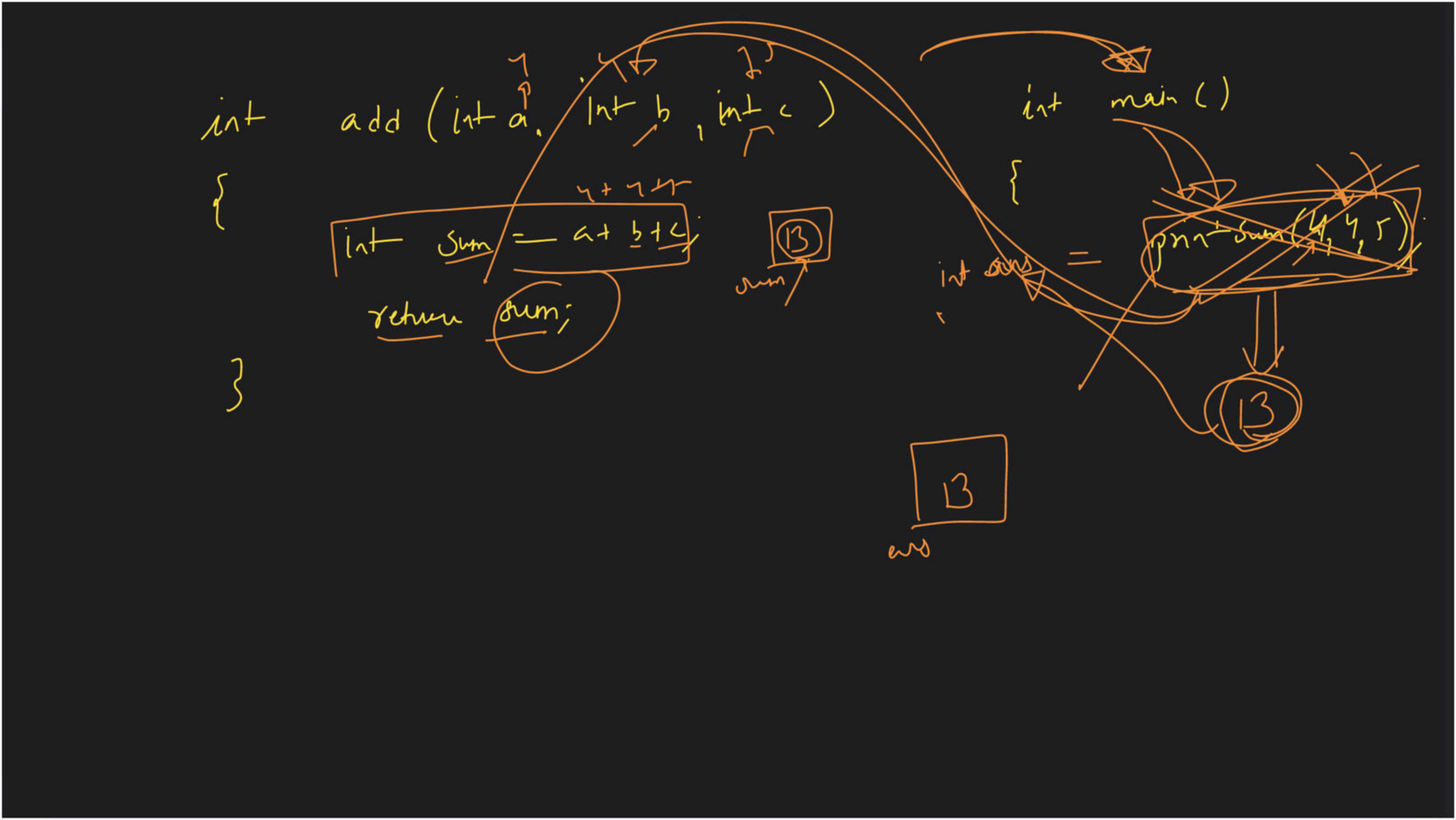
return

remove entry

0


int main ()
{
printA()
}
printA()
{
cout << "Inside A"
printB();
}
printB()
{
cout << "Inside B"
print (()
}
printC( )
{
cout << "inside C"
}
printC()
printB()
printA()
main()


Q 1 → write a function to print sum of 3 no
i/p → 3 no
o/p → print sum
void
→ write a function to return sum of 3 no
int



```
int add (int a, int b, int c)
{
    int sum = a+b+c;
    return sum;
}
```

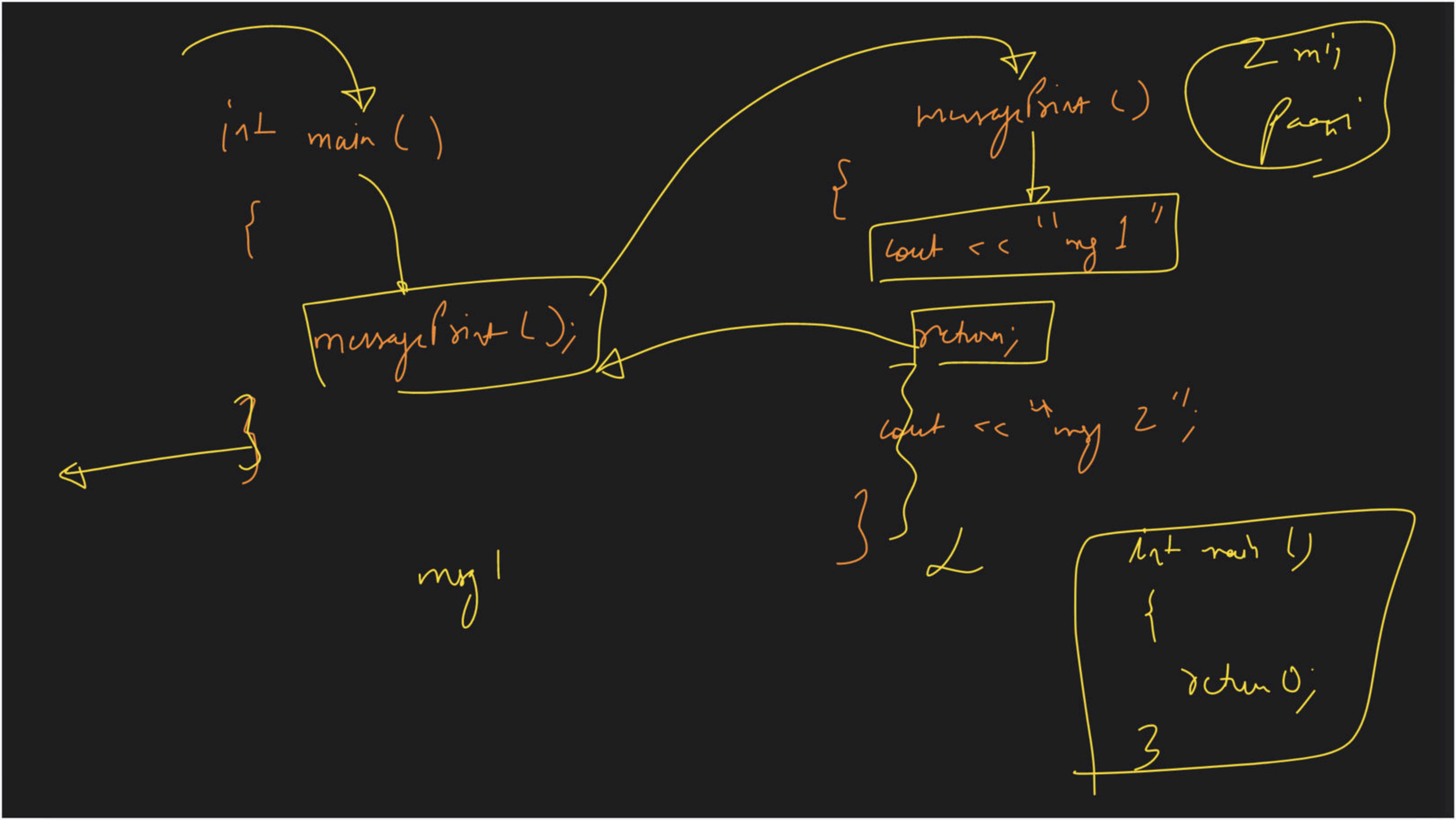
4 + 4 + 5

sum: 13

```
int main ()
{
    int ans = print_sum(4, 4, 5);
```

13

ans: 13



```
int main()
{
    messagePrint();
}
```

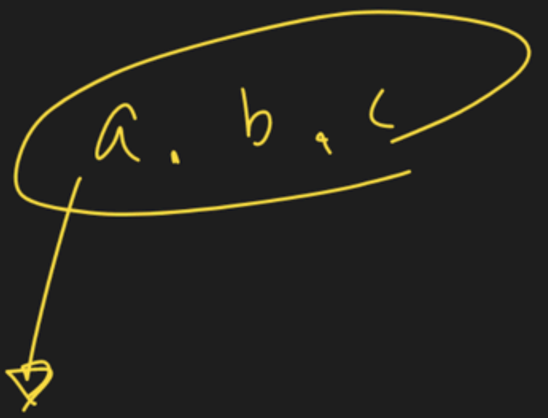
```
messagePrint()
{
    cout << "msg 1"
    return;
    cout << "msg 2";
}
```

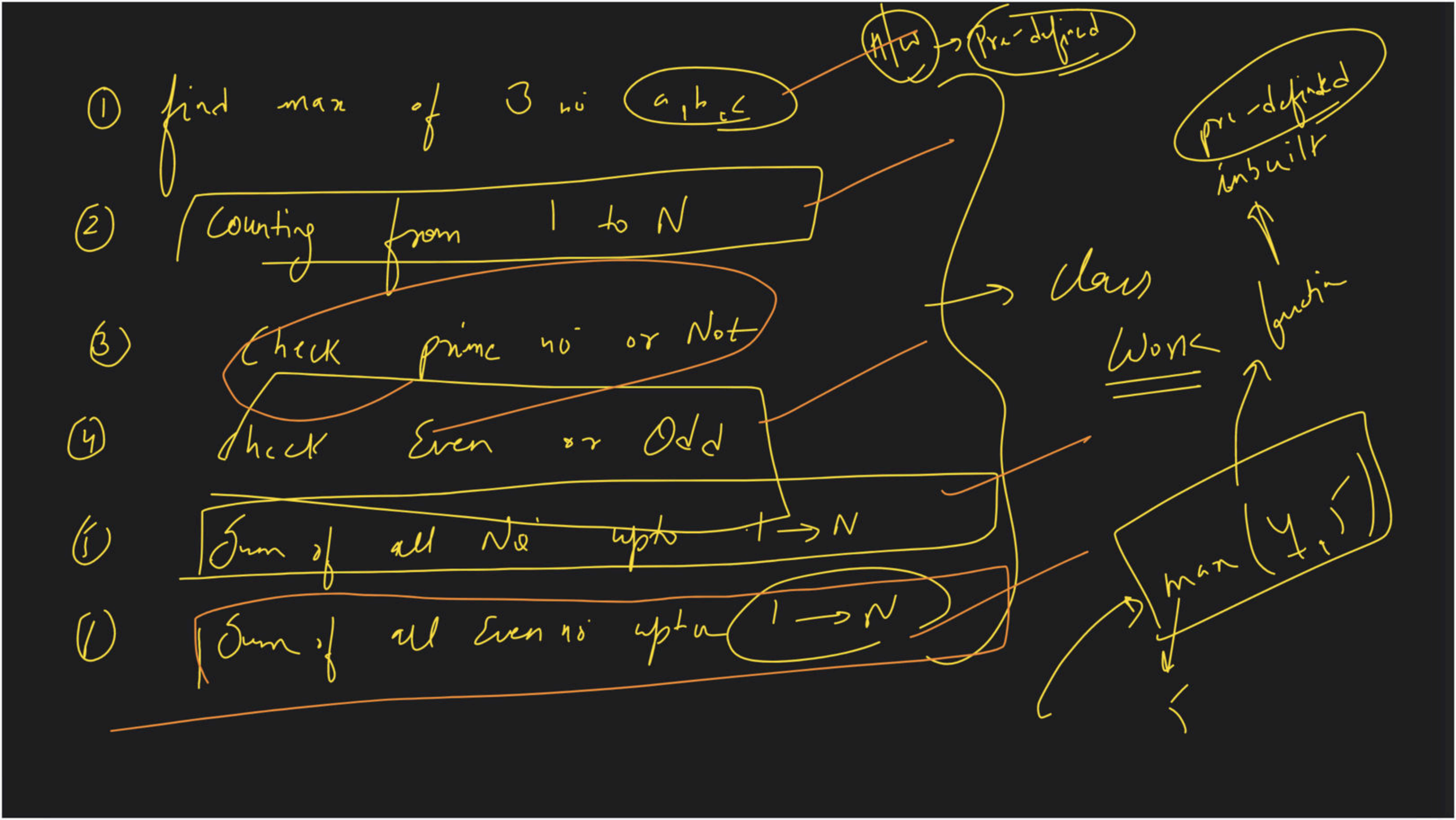
2 mi; Paani

msg 1

```
int main()
{
    return 0;
}
```

→ find max of 3 no's





① find max of 3 no. a, b, c

A/W → Pre-defined

② Counting from 1 to N

③ Check prime no. or Not

④ Check Even or Odd

⑤ Sum of all No. upto 1 → N

⑥ Sum of all Even no. upto 1 → N

→ class Work

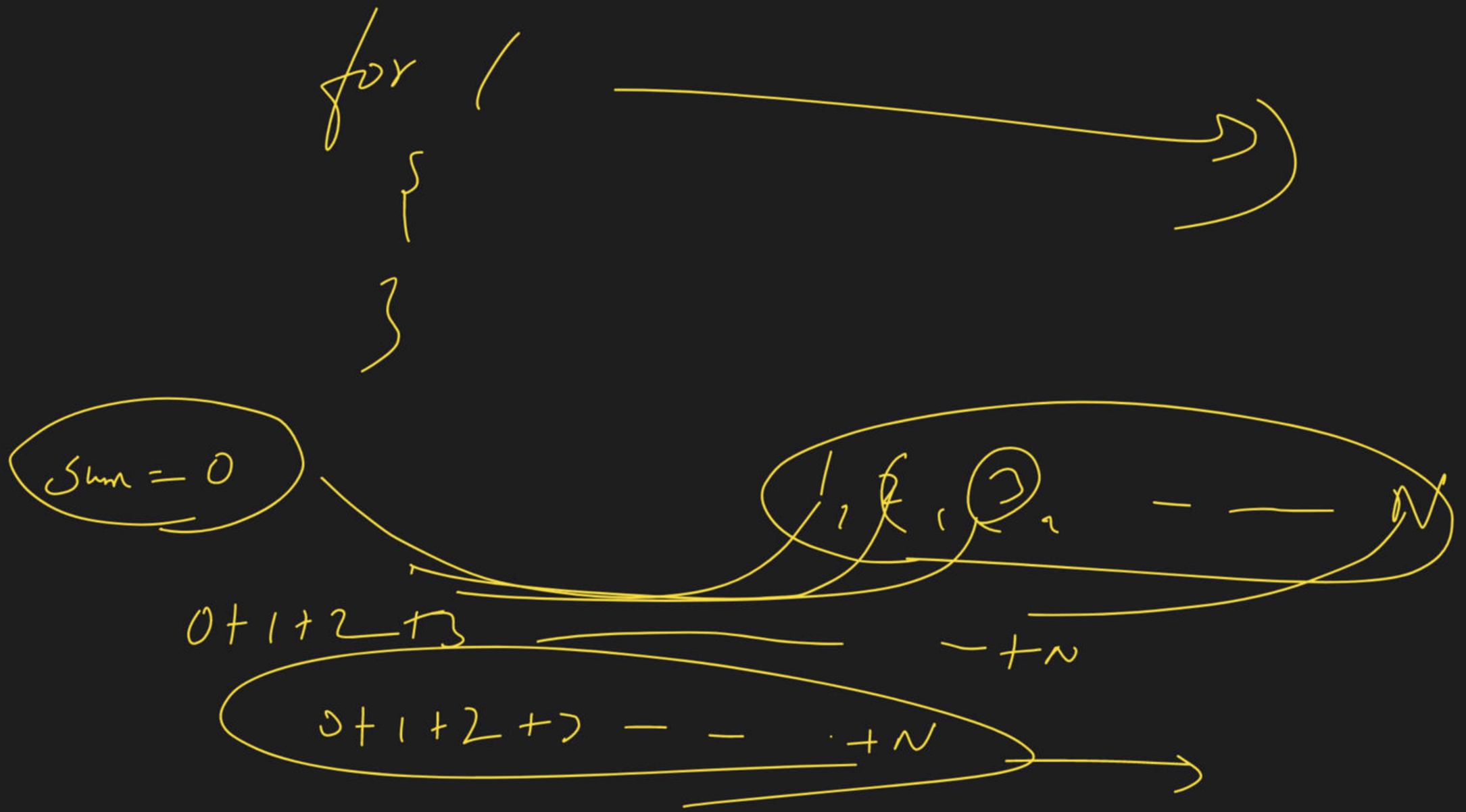
function

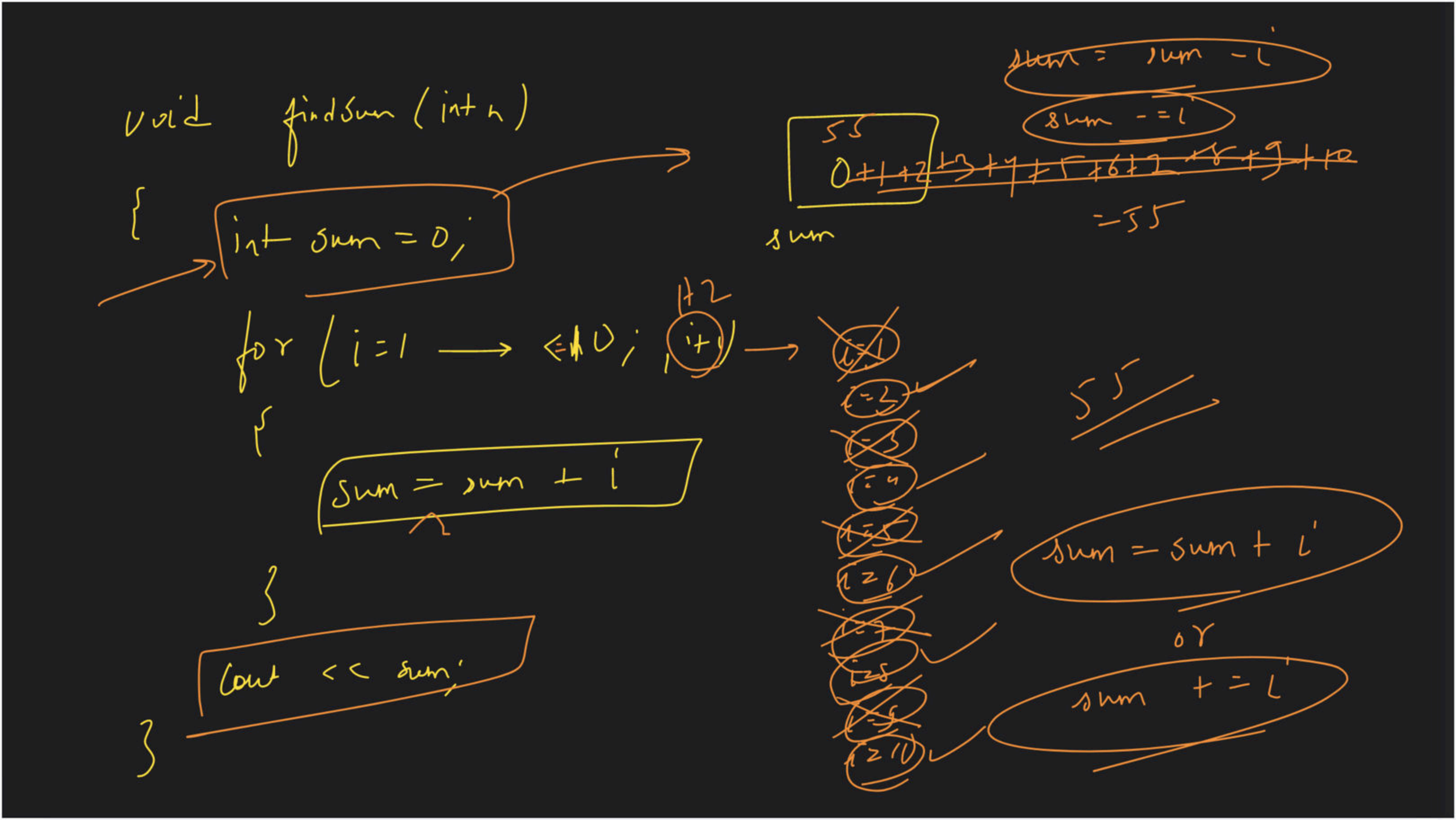
pre-defined

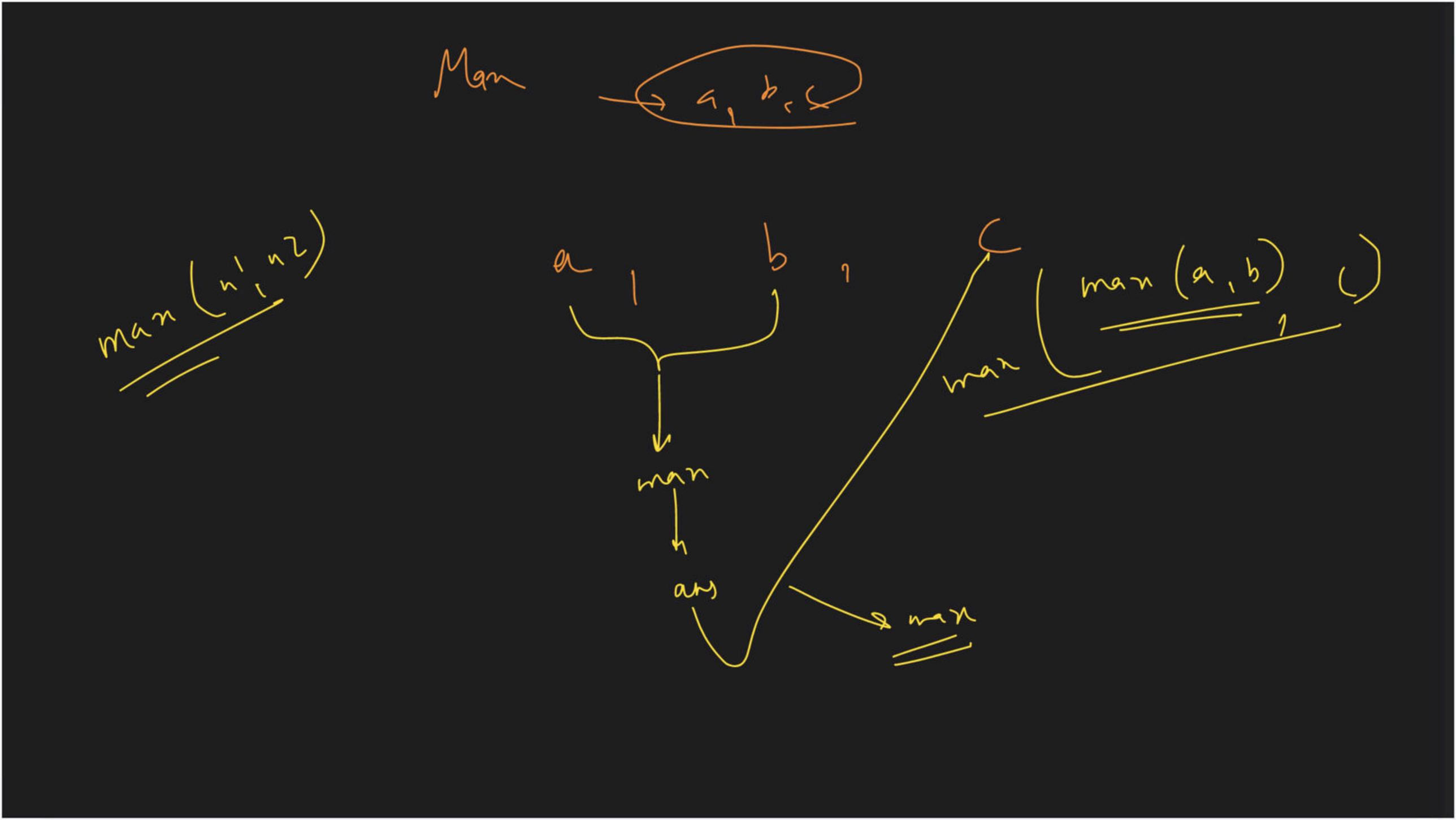
inbuilt

max(4, 5)

5


for (
{
}
Sum = 0
1, 2, 3 — — N
0+1+2+3 — — +N
0+1+2+3 — — +N


void findSum (int n)
{
int sum = 0;
for (i=1 ⟶ <=10; i+2)
{
sum = sum + i
}
cout << sum;
}
sum
55
0+1+2+3+4+5+6+7+8+9+10
=55
sum = sum - i
sum -= i
i=1
i=3
i=5
i=7
i=9
i=11
55
sum = sum + i
or
sum += i


Max
a, b, c
max (n1, n2)
a
b
max
ans
c
max (a, b)
max
max

Home Work

- Function to find area of circle
- Function to find factorial of a No
- print all prime no from 1 → N
- print all digits of an Integer
- Create a no using digits
- print Binary rep of a decimal no

- Convert Km into miles
- convert Farhenheit into Celcius
- Count all set bits of a Number
- check Even/odd using bitwise operator

Ultra imp

Ultra imp

Ultra imp

1 min

loop → so re the

for (i=0 i<n)

i = 0, 1, 2, 3 - - - - n-1

for (i=0; i<=n) i = 0, 1, 2, 3 — n

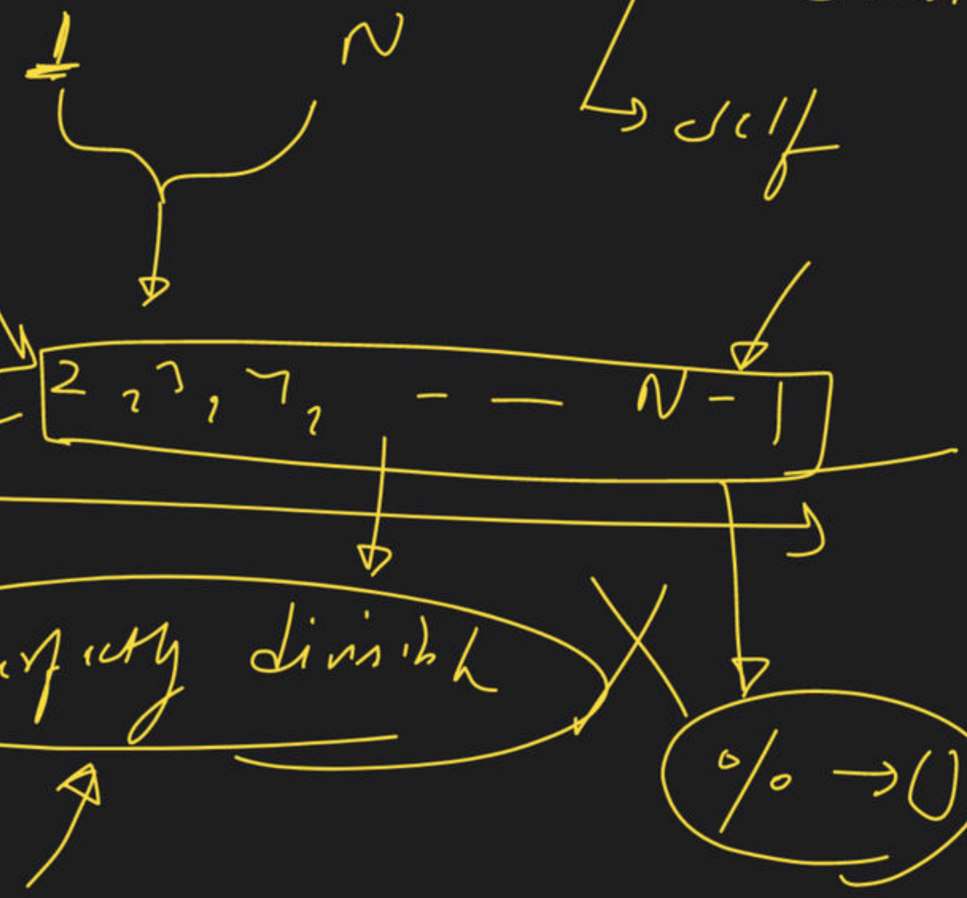
for (i=1; i<=n) i = 1, 2, 3, - - - - n

for (i=1; i<n) → i = 1, 2, 3 - — - n-1

Check prime or Not

i/p → 7

N



prime no → (N)

↳ 1 divisible

↳ self