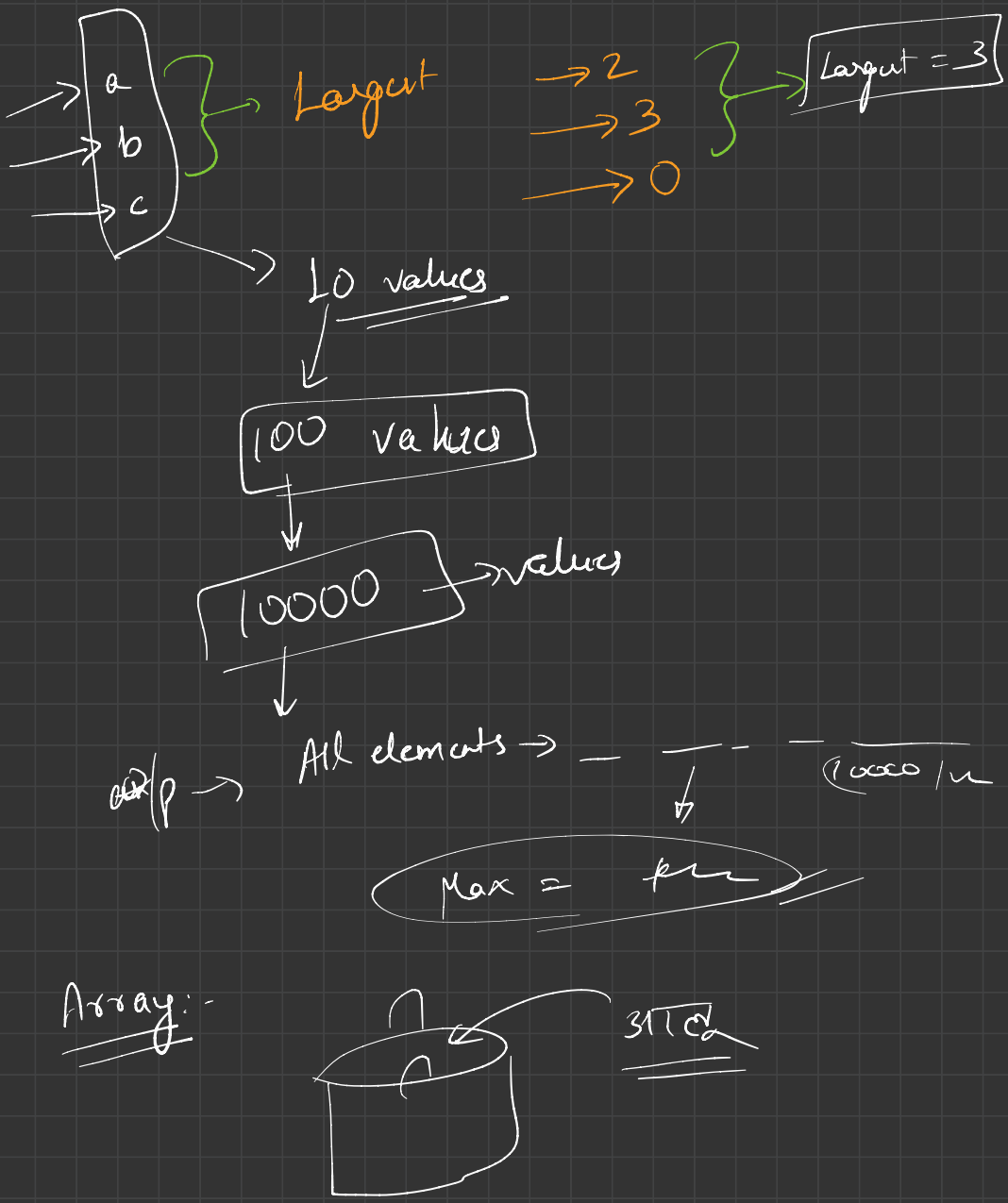
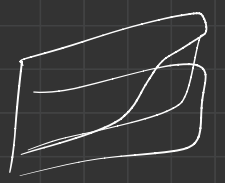
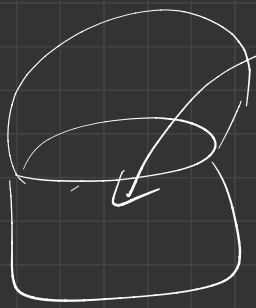
Arrays


a
b
c
Largest
2
3
0
Largest = 3
10 values
100 values
10000 values
All elements
Max =
Array:-
3 1 6



→ 2000 ₹



similar kind of items

Arrays

10000 int

↓

array of int 100

100000 char

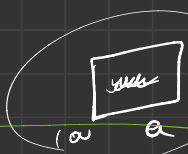
↓

array of char

data type → Car → 1000 cars

array of Car

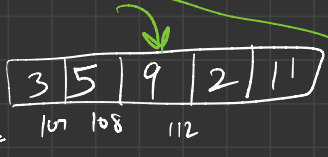
int a;



arrays → similar type of Item

↓ integer

→ contiguous location



→ Index → access

why ?

10000 values → 0000 variables

1 variable

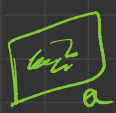
→ what is array ?

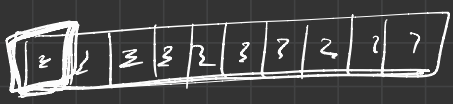
→ why ?

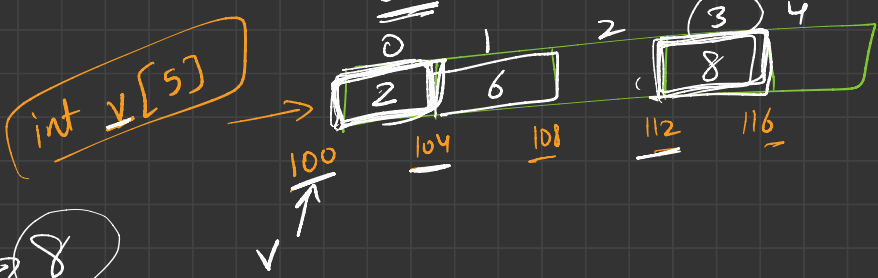
→ Implementation

Declaration → int a;

int dost [10];







cout << v[3] → 8

100 + 3x4 = 112

v[0] → 1st location → 2

cout << v[0]; → 2

v[1] → 100 + 1x4 = 104

cout << v[1] → 6

→ Declaration

→ Access → int dost[10] → 0-9

5th location value → dost[4]

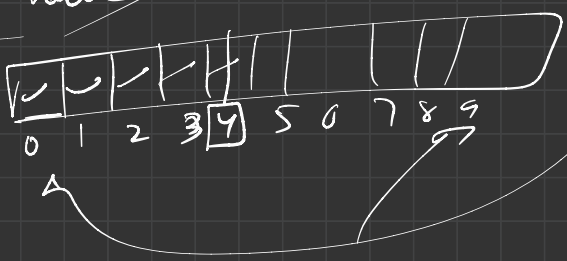
array (n size)

↓

Index

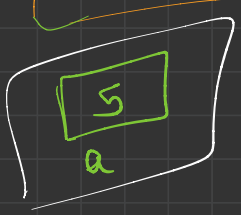
↓

0 - (n-1)

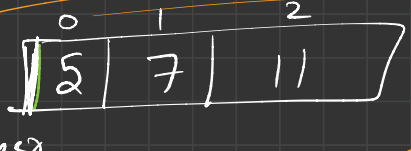


→ Initialisation

int a=5;



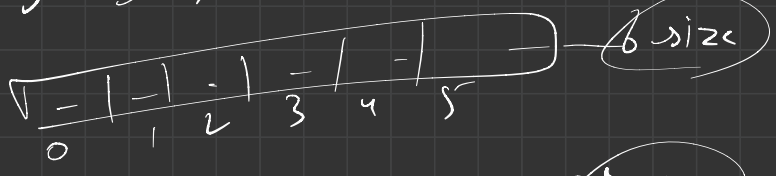
int number[3] = {5, 7, 11}



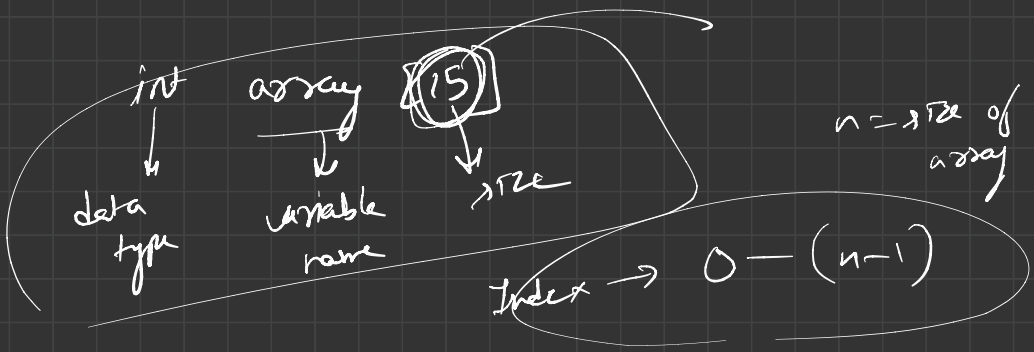
int array[100000] = {1};

H/w → entire array ko kisi bhi value se initialise kaise karu?

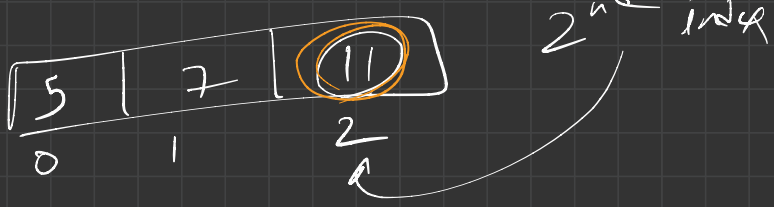
5th Index



20th index → 20 size



second [3] = { 5, 7, 11 }



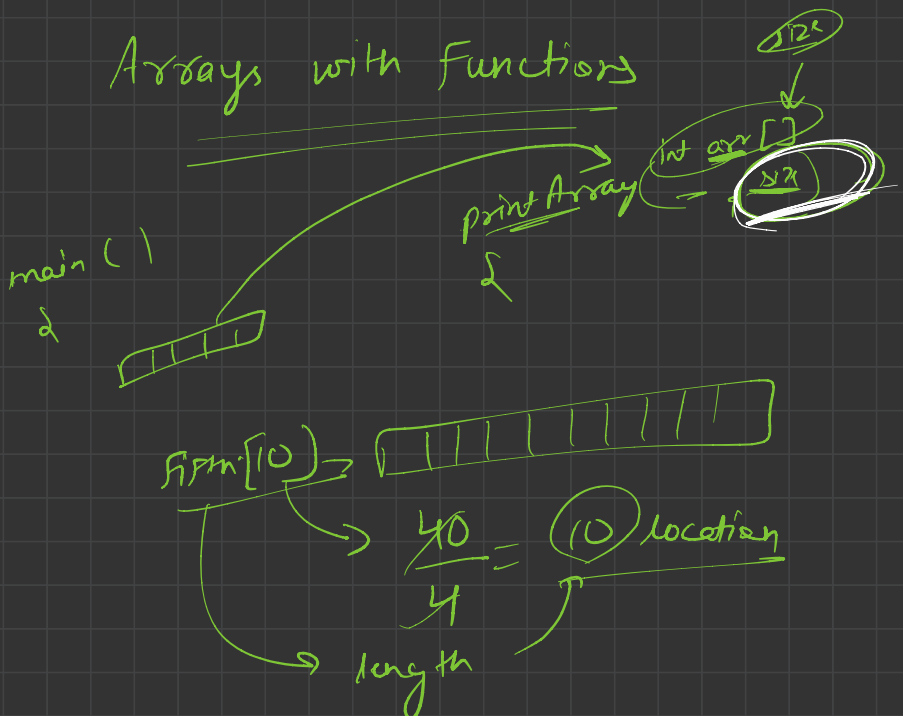
Access

```
array_name [ i ];
```

index → 0 - (n-1)

i/p

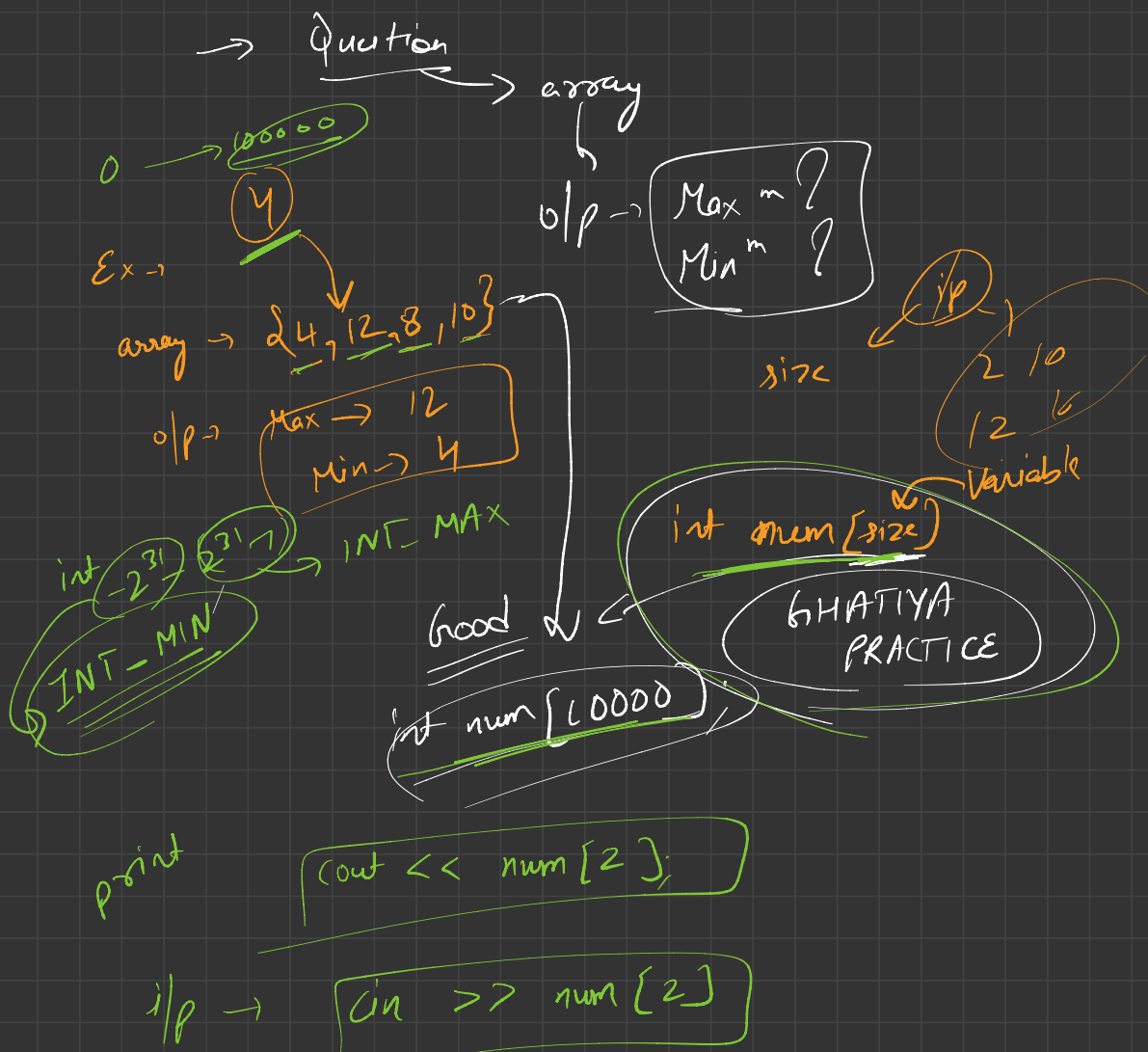
Arrays with Functions

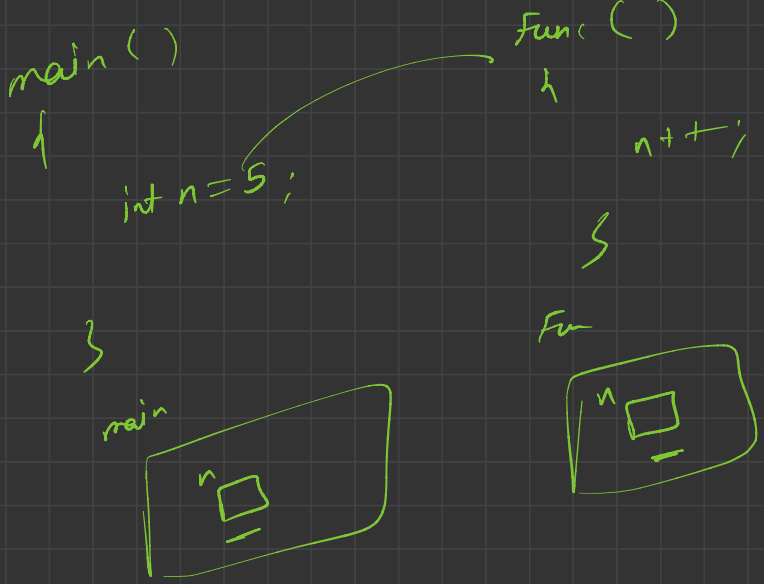


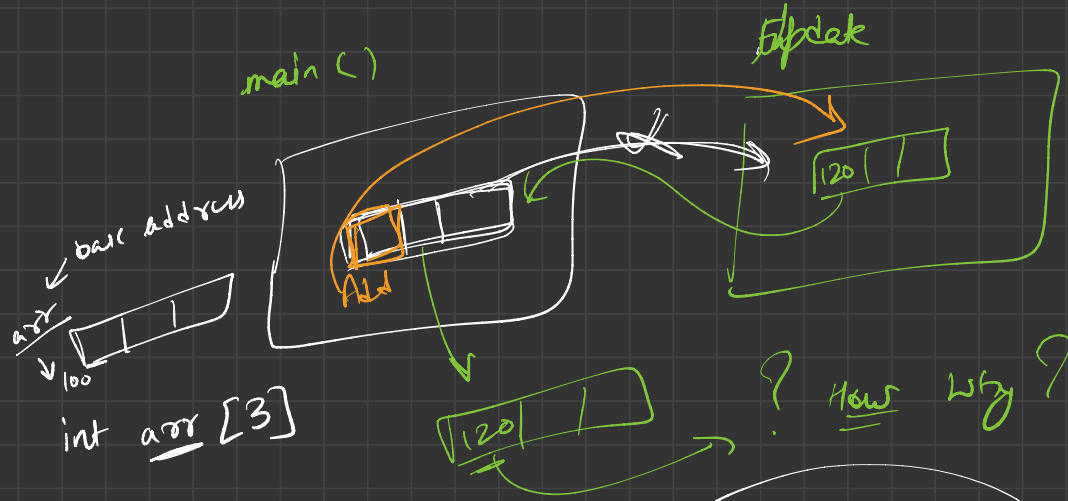
fibo[10]

40 / 4 = 10 location

length

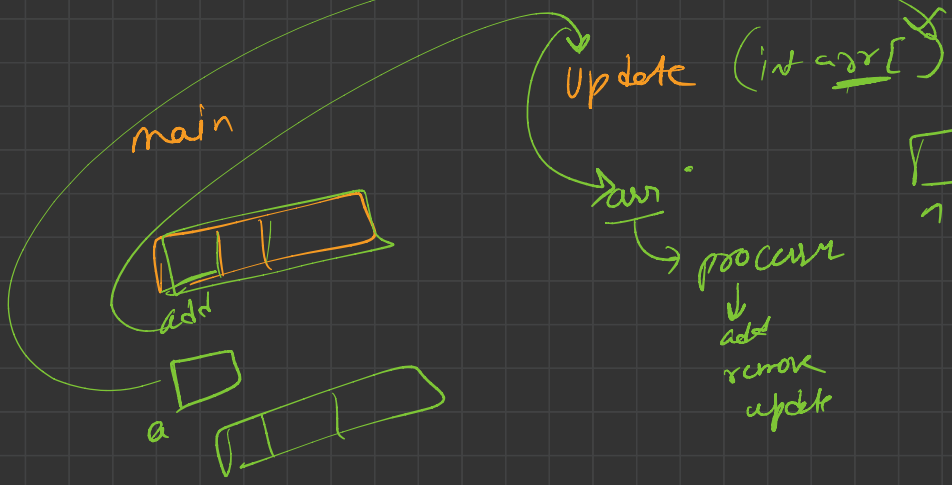

Question
array
o/p -> Max m ? Min m ?
0
Ex ->
array -> {4, 12, 8, 10}
o/p -> Max -> 12 Min -> 4
int
INT_MIN
INT_MAX
Good
int num[10000]
i/p
size
2 10
12
Variable
int num[size]
GHATIYA PRACTICE
print
cout << num[2];
i/p ->
cin >> num[2]

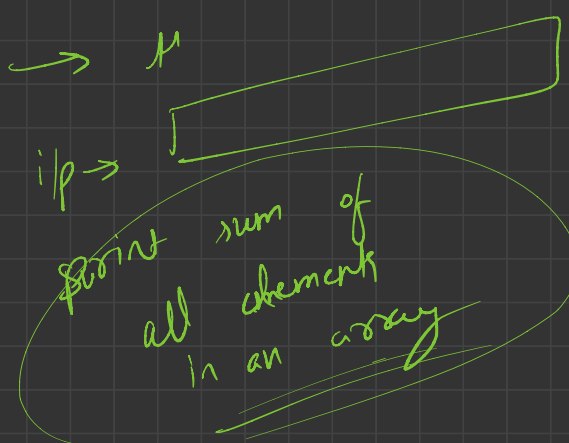


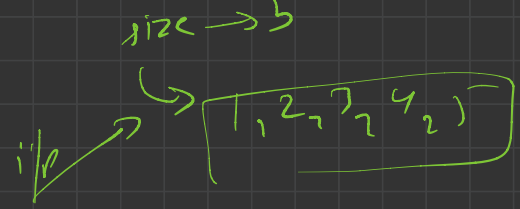


sign → Update (int arr[ ], int n)

Call → update (arr , 3)

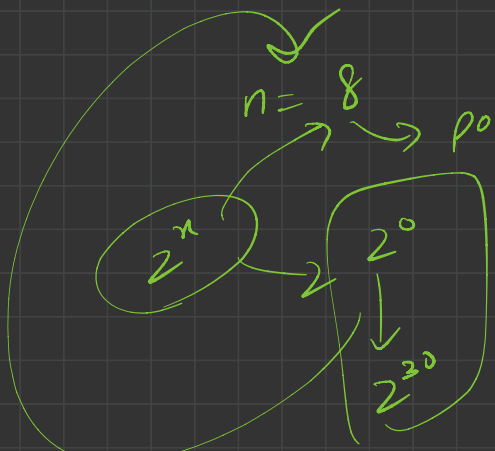


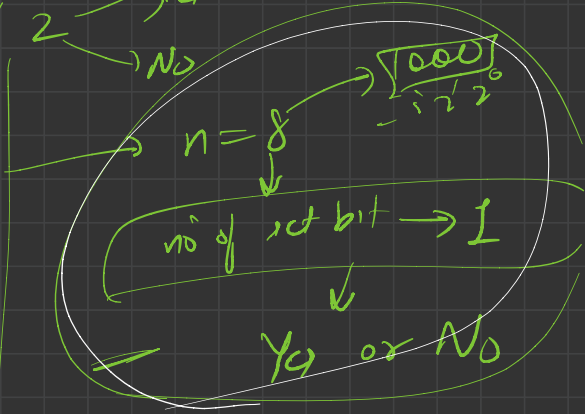




i/p → 5
→ 2, 7, 1, -4, 11

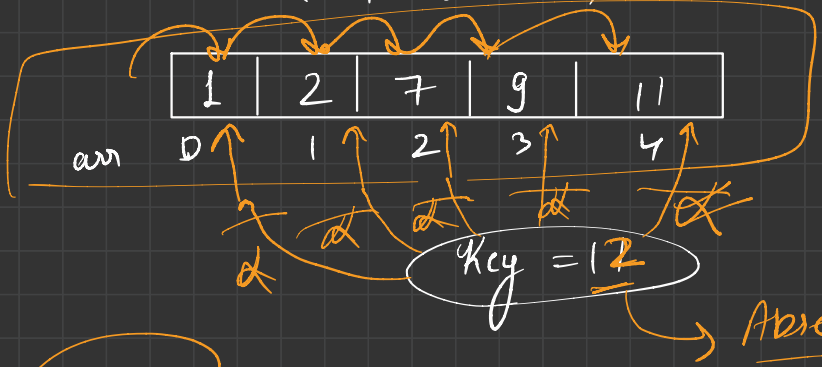
o/p → Sum → 17





Linear Search

arr [5] → {1, 2, 7, 9, 11}



==

arr [i] == Key

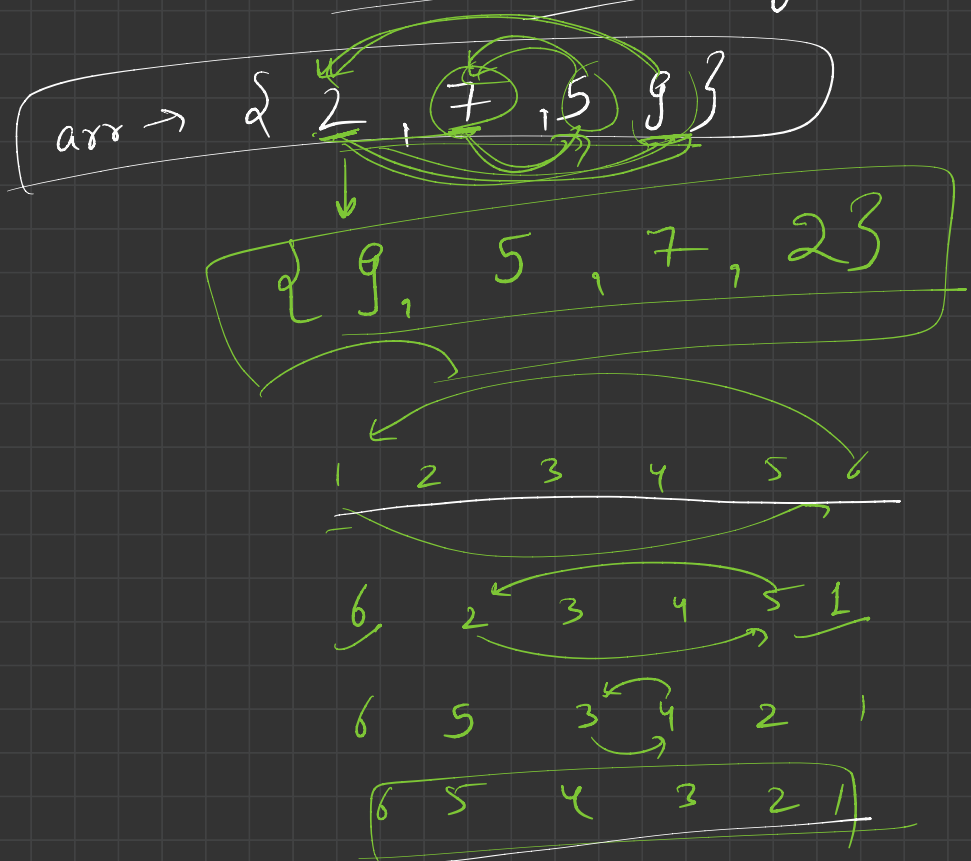
2 4

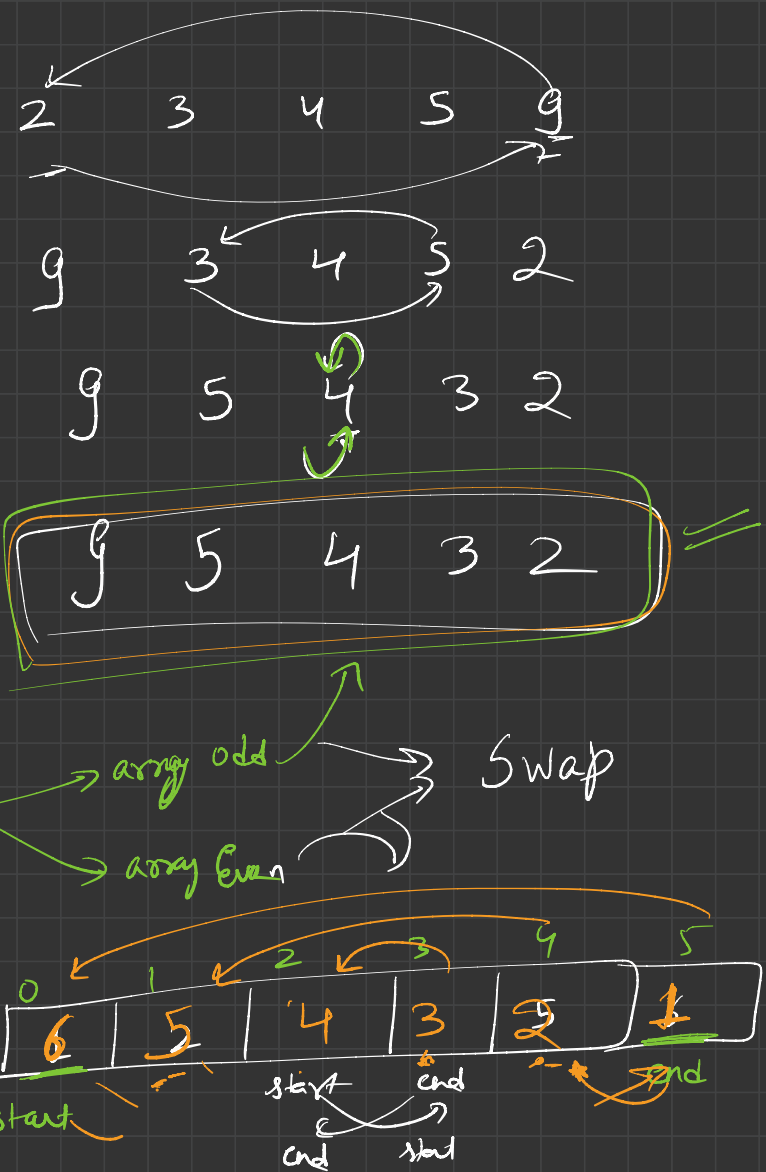
2 == 4 → Kya ye Equal hai

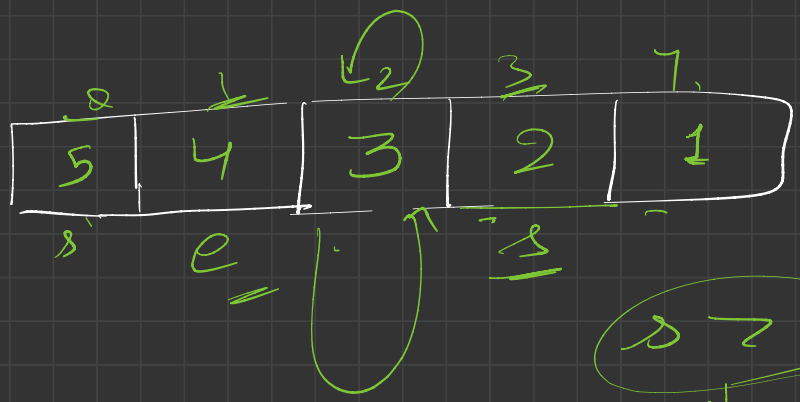
NO → 0

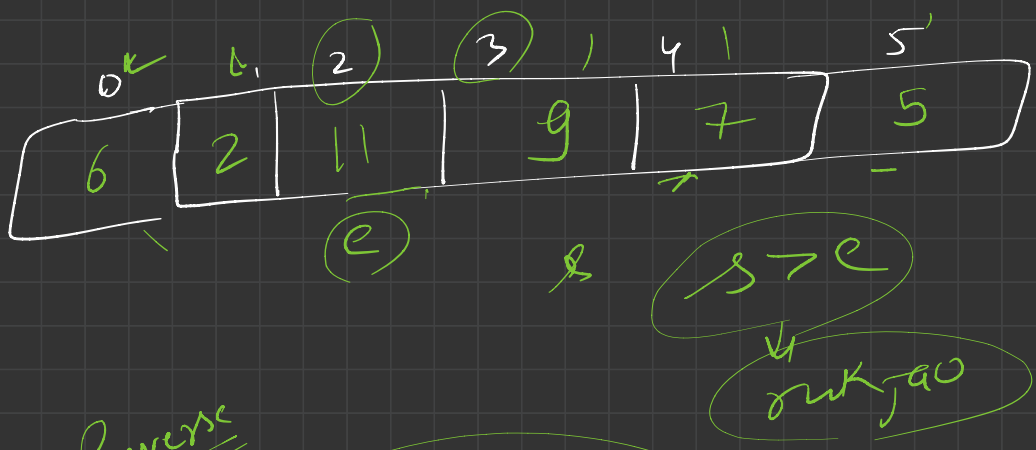
Binary Search →

Reverse an array :-

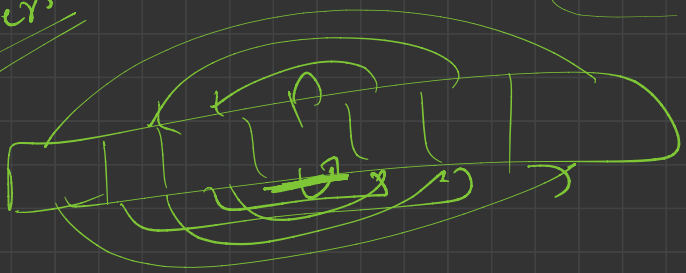



2 3 4 5 9
9 3 4 5 2
9 5 4 3 2
9 5 4 3 2
Obs:
array odd
array Even
Swap
Index
0 1 2 3 4 5
6 5 4 3 2 1
start
start
end
end
end
start
Algo
swap → (start wale ko , end wale ko
→ start ++ , end --
start > end
↳ dusra gaya





Reverse



→ swap alternate {1, 2, 3, 4, 5, 6}

o/p {2, 1, 4, 3, 6, 5}

→ find unique

→ find duplicate

→ Array intersection → {1, 2, 3}

{2, 4, 6, 8}

o/p → {2, 4}

→ pair sum

→ Triplet sum

→ sort 0's & 1's