DSA through C++

Singly linked list

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Agenda

1. what is a list?
2. what is a node
3. Singly linked list
4. SLL ADT
5. Array vs Dynamic Array vs SLL

What is a List?

List is a linear collection of data items also known as List Item

Example 1

Marks of tests / List of marks

20 15 21 24 18   23 25 .....

list item → int

Example 2

List of guests

"Singh", "Chaturvedi", "Dubey", "Khan" .....

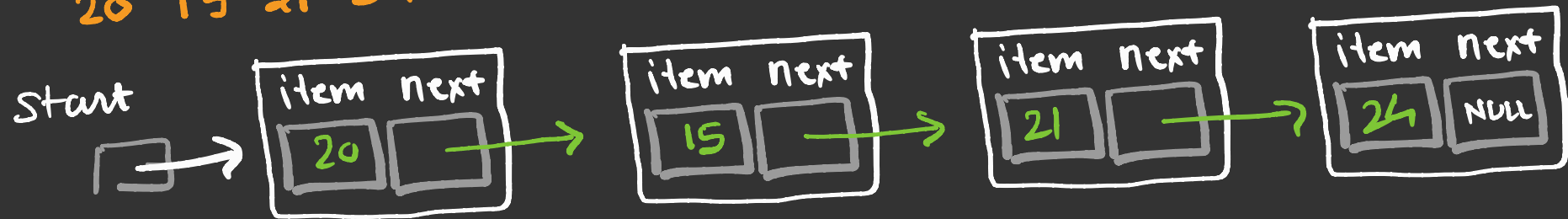list item → String
or
char [ ]

Example 3

List of Students

Rahul
17
xyz@x.com

Savita
19
xy@x.com

Dilip
18
x@x.com

.....

list Item → class
or
Structure

What is a node?

Example-1

Marks of tests / List of marks

20 15 21 24 18   23 25 ....

start

item	next
20	

item	next
15	

item	next
21	

item	next
24	NULL

struct node
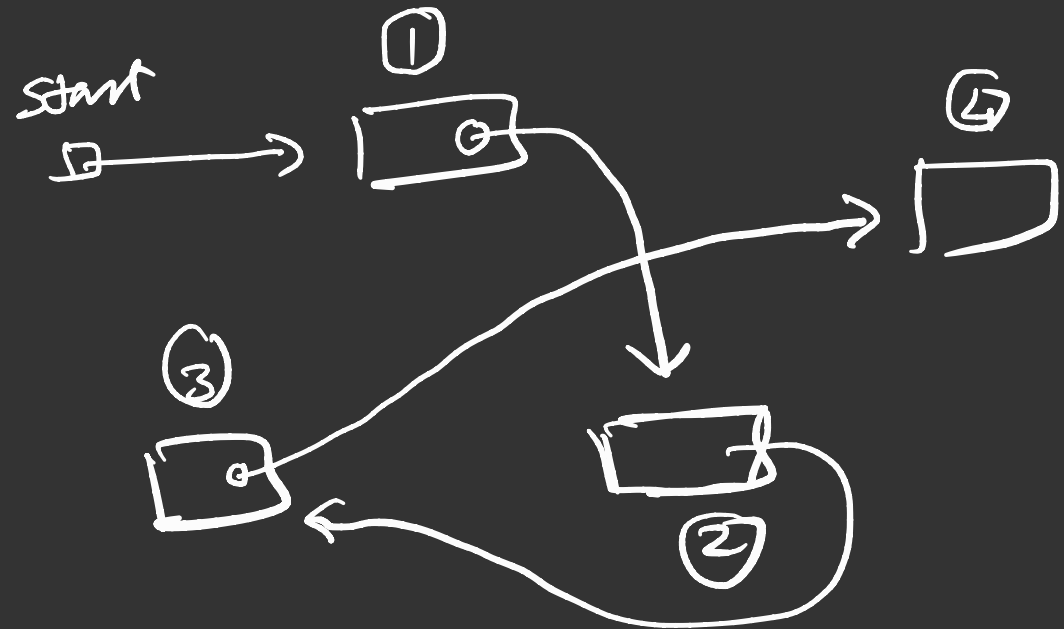{
    int item;
    node *next;
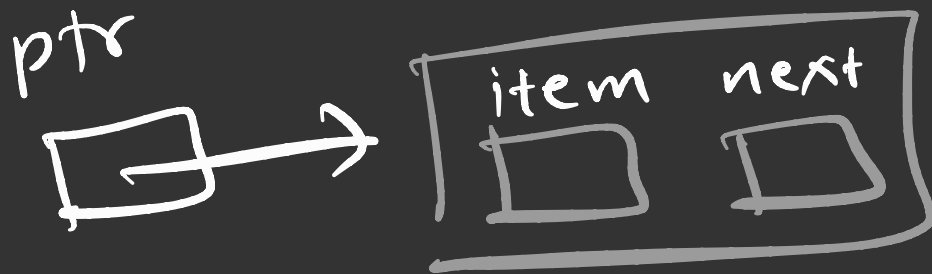};

start

① ⑤ ③ ② ④

Singly Linked List

① insertion → ① starting
              ② Last
              ③ after a node

② deletion → ① first node
             ② last node
             ③ specific node

ptr

item next

ptr → item
ptr → next

```
class SLL
{

};
```

Array Vs Dynamic Array vs SLL

H.W