

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 \rightarrow int

Example 2

List of guests

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

list item \rightarrow string
or
char []

Example 3

List of Students

Rahul	Savita	Dilip
17	19	18	
xyz@x.com	xy@x.com	x@x.com	

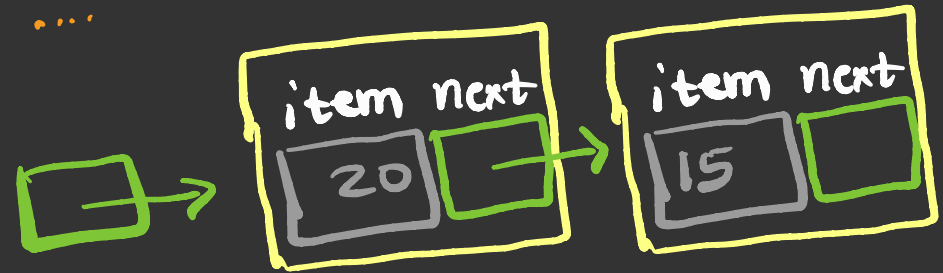
List Item \rightarrow class
or
structure

What is a node?

Example 1

Marks of tests / List of marks

20 15 21 24 18 23 25

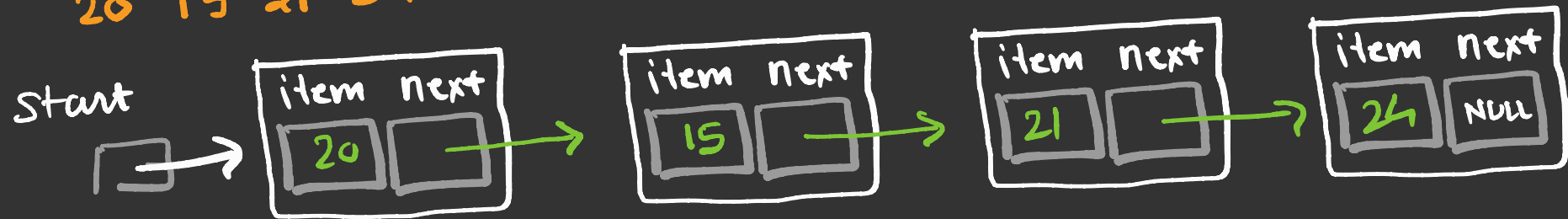


```
struct node
{
    int item;
    node* next;
};
```

What is a node?

Example-1

Marks of tests / List of marks
20 15 21 24 18 23 25



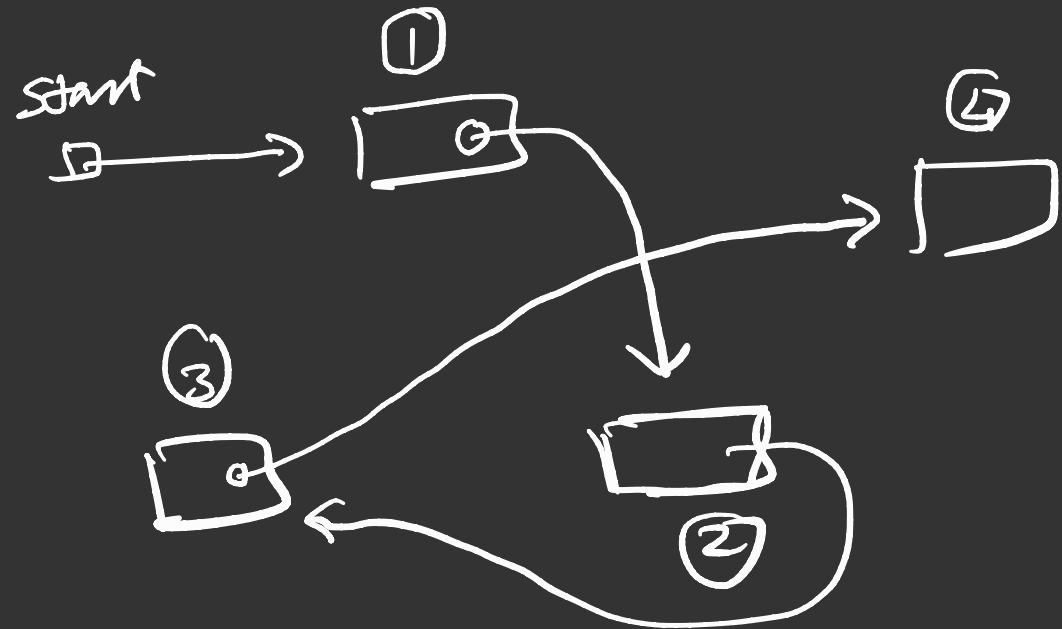
struct node

{

int item;

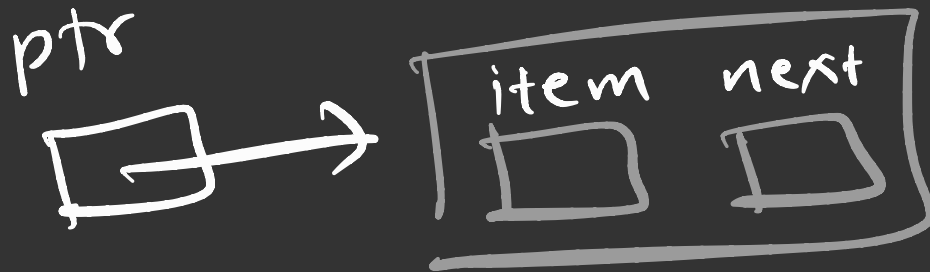
node *next;

};



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

ptr → next

Array vs Dynamic Array vs SLL

Fixed Size

growable
shrinkable

