DSA through C++

Singly_Linked_List

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Agenda

- What is a list?
- What is a node
- Singly linked list
- Array vs DynArray vs SLL

What is a list ?

- List is a linear collection of data items

  also known as list_Item

list_Item

List_Item → int

Example_1 :- List of test marks :- 56, 89, 55, 34, 64....

List_Item → string

Example_2 :- List of city name :- Bhopal, Patna, Indore....

List_Item → Book

Example_3 :- List of Book :-

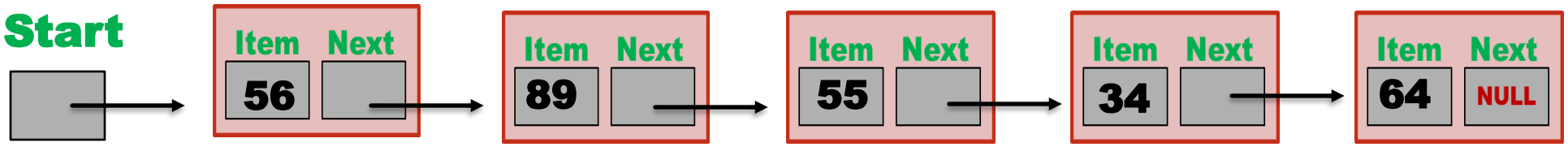
1	2	3	4
C++	DSA	JAVA	Python
450	600	500	500

What is a node ?

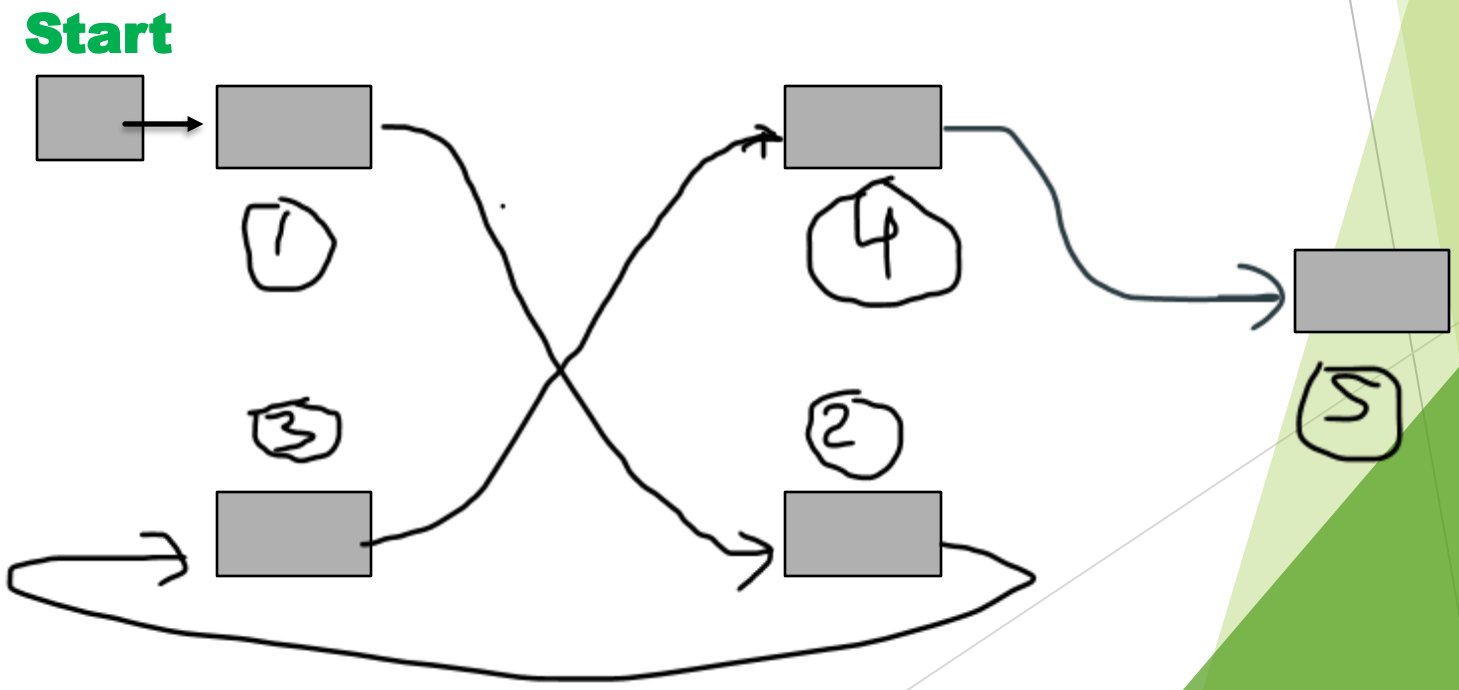
Example_1 :- **List of test marks :- 56, 89, 55, 34, 64....**

What is a node ?

Example_1 :- List of test marks :- 56, 89, 55, 34, 64....



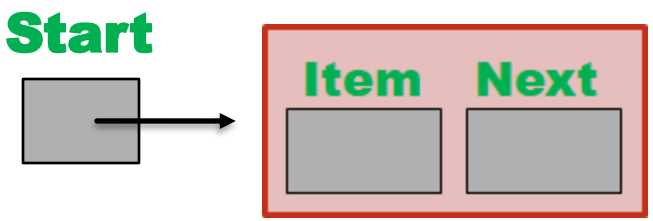

```
struct Node
{
    int Item;
    Node *Next;
};
```



Singly linked list

- Singly linked list is a liner data structure.

1. insertion
   - Starting
   - Last
   - After a node
2. deletion
   - First node
   - Last node
   - Specific node




```
Start->Item = Data;
Start->Next = new Node;
```

Array vs DynArray vs SLL

Array size fixed

Growable

Shrinkable