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L-4

Singly Linked List:-

What is a list?

→ List is a linear collection of data items also known as list item.

* List is not a fixed size, it is growable.

Eg:-

Ex 1 → list of marks (int)

30, 32, 20, 35, 41, 38., ——.

Ex 2 → list of city names visited (str)

"Hzb", "Patna", "Gaya", "Ranchi", ----

Ex 3 → list of Employees. (Employee)

100	101	102	103	---
"Atul"	"Savita"	"Akshay"	"Shivam"	---
25000	35000	40000	30000	---

What is a Node?

list of marks.

Eg:- 30, 32, 20, 35, 41, 38, ——

To store this, suppose we have 100 variables.

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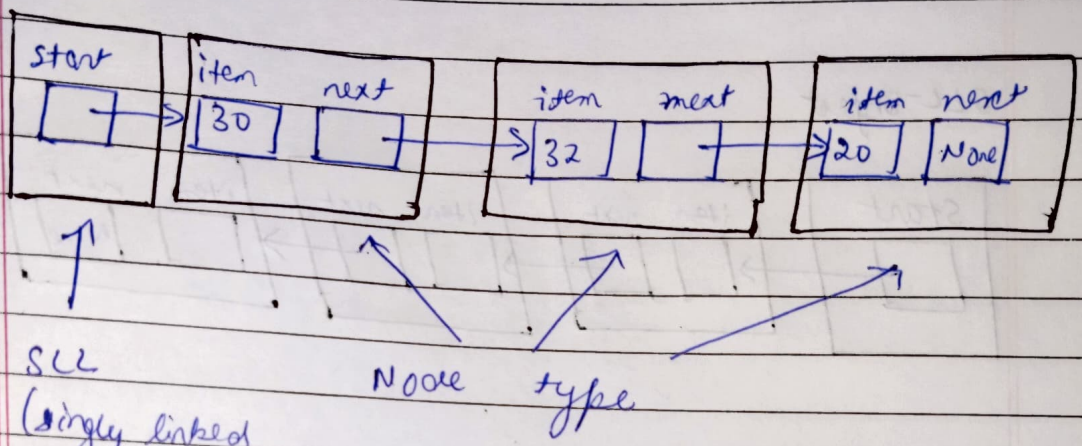
x → 30 y → 32 z → 20

This way is not possible.

So,



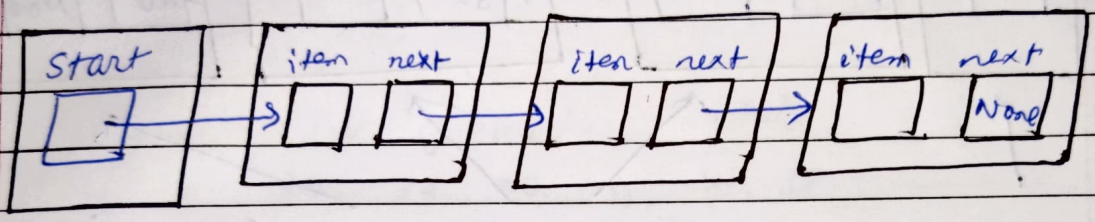
Defining a Node :

```
class Node:
    def __init__(self, item = None, next = None):
        self.item = item
        self.next = next
```

◎ Singly linked - list.

- SLL is a linear data structure
- It can grow and shrink.
- Each node has a single link to the next one.

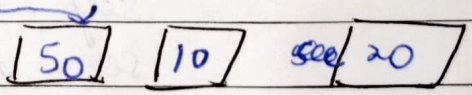
SLL-Object



operations on Singly linked list :-

→ insertion
→ deletion
→ is-empty
→ traverse

```
Obj = SLL()
Obj.insert_at_start(10)
Obj.insert_at_last(20)
Obj.insert_at_first(50)
```



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