

Agenda

- ① What is a list?
- ② What is a node?
- ③ Defining a node
- ④ Singly Linked List
- ⑤ Elementary operations

What is a list?

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

Example 1: **list of marks** **int**
30, 32, 20, 35, 41, 38

Example 2: **list of city names** **str**
"Bhopal", "Itarsi", "Indore", "Delhi", "Jaipur"
"Pune", "Gwalior", "Mumbai", "Jabalpur"

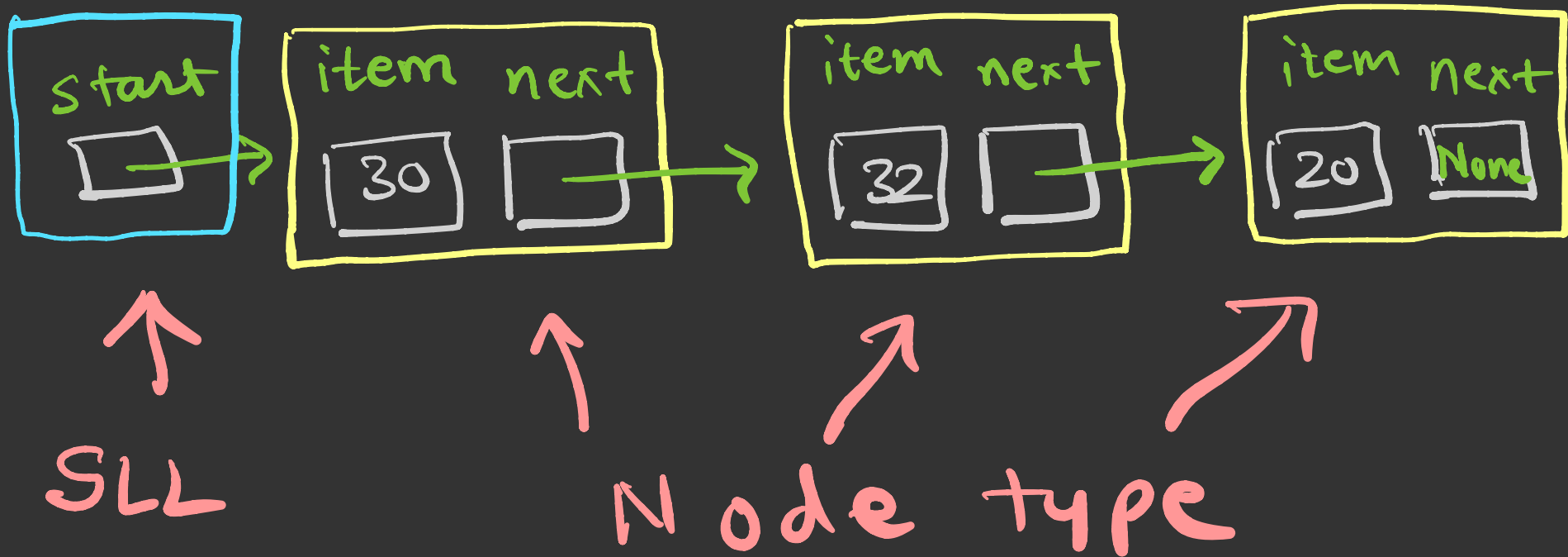
Example 3: **list of Employees** **Employee**

| | | | | |
|--------|----------|----------|----------|---------|
| 100 | 101 | 102 | 103 | 104 |
| "Atul" | "Savita" | "Akshay" | "Shivam" | "Jenil" |
| 25000 | 35000 | 40000 | 30000 | 50000 |

What is a node?

Example 1: *list of marks* *int*

30, 32, 20, 35, 41, 38



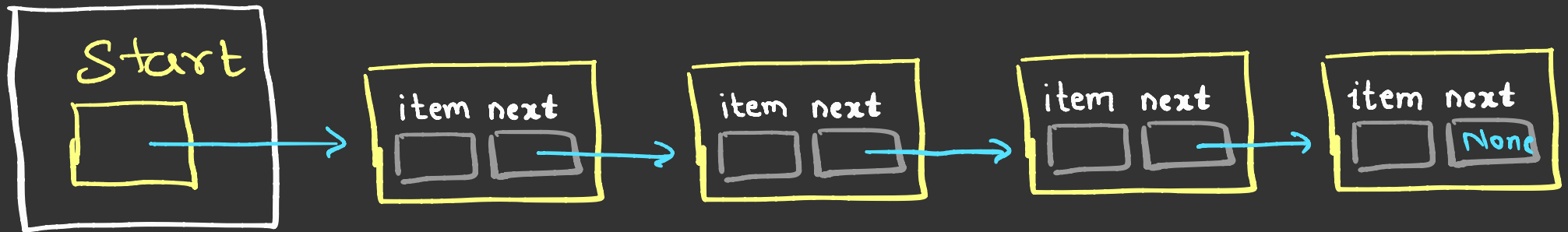
Defining a node

```
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
-

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_start(50)
```

```
obj.delete_first()
```

```
for x in obj:
```

```
    print(x)
```