15 Feb'21

11) LINKED LIST (60 mins)

Advantages of LL

i No wastage of space

ii Insertion and deletion in O(1)

Disadvantages of LL

i No random access

ii Not cache friendly

* Code : C++/Java

```
struct Node
{
    int key;
    Node *nxt;
    Node (int x) {
        key = x;
        nxt = NULL;
    }
}

struct LList {
    Node *head;
    LList() {
        head = NULL;
    }
}
```

```
class Node
{
    int key;
    Node nxt;
    Node (int x) {
        key = x;
    }
}

class LList ( {
    Node *head;
    LList() {
        head = NULL;
    }
}
```

* Q/A (40 mins)

Q1) Find the middle of a linked list ?
Q2) Find nth node from the end ?
Q3) Reverse a linked list.
Iterative and recursive
Q4) Detect loop in a linked list
Flyod's Algorithm / Hare & Turtoise
Q5) Detect and remove loop in linked list
Q6) Find length of the loop in linked list
Q7) swap adjacent/ pair nodes
Q8) Reversing in groups of size K
Q9) Deleting n nodes after m nodes
Q10) Odd and even nodes in linked list