Summary

Sessions (14-02-2023)

- Inserting data is also known as **push** the data. If we want to insert data at last then we can say **push back**.

```
void DoublyLinkedList::push_back(int newData) {
    Node *NewNode = new Node;
    NewNode -> data = newData;
    NewNode -> prev = last;
    NewNode -> next = NULL;
    last -> next = NewNode;
    last = NewNode;
}
```

- And if we want to insert data at the first position of the list then we can say **push front**.

```
void DoublyLinkedList::push_front(int newData) {
    Node *NewNode = new Node;
    NewNode -> data = NULL;
    NewNode -> prev = NULL;
    NewNode -> next = head;

    head -> data = newData;
    head -> prev = NewNode;
    head = NewNode;
}
```

- If we talk about time complexity of above both the methods then it is **O(1) ie. constant**.

- **Peek()** is one the most important operation in the data structure, which is used to get the last element of any data structure without deleting that element.

- Method for peek() operation :

  Time complexity : O(1)

```
int DoublyLinkedList::peek() {
    return last -> data;
}
```

- **Pop()** : Accessing the element while removing it from the last, is known as a Pop Operation.

- Method for pop() operation :

  Time complexity : O(1)

```
int DoublyLinkedList::pop() {
    Node *q = last;
    int temp = last -> data;
    last -> prev -> next = NULL;
    last = last -> prev;
    delete q;
    return temp;
}
```