

Date ____/____/____

Saathi

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Std: ECS-02 (B)

Roll no.: 33

Subject: DSA Assessment

```
→ a) class DoublyLinkedList {
    class Node {
        int data;
        Node prev, next;

        Node(int d) {
            data = d;
            prev = null;
            next = null;
        }
    }

    Node head = null;
    Node tail = null;

    public void addFirst(int data) {
        Node newNode = new Node(data);
        if (head == null) {
            head = tail = newNode;
        } else {
            newNode.next = head;
            head.prev = newNode;
            head = newNode;
        }
    }
}
```


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```
public void addLast (int data) {
    Node newNode = new Node(data);
    if (tail == null) {
        head = tail = newNode;
    } else {
        tail.next = newNode;
        newNode.prev = tail;
        tail = newNode;
    }
    System.out.println(data + " added to last");
}

public void deleteFirst() {
    if (head == null) {
        System.out.println("Empty list");
    } else {
        System.out.println(head.data + " deleted from first");
        tail = tail.prev;
        if (tail != null) tail.next = null;
        else head = null;
    }
}

public void display () {
    Node temp = head;
    System.out.println("List:");
    while (temp != null) {
        System.out.println(temp.data + " ");
        temp = temp.next;
    }
    System.out.println();
}
```



```
public static void main (String args []);
{
    DoublyLinkedList dll = new
    DoublyLinkedList();
    dll.addfirst(0);
    dll.addlast(2);
    dll.addfirst(5);
    dll.display();
    dll.deletefirst();
    dll.display();
    dll.deletelast();
    dll.display();
}
```

b) class CircularLinkedList {

```

    class Node {
        int data;
        Node next;
        Node (int d) { data = d; }
    }
    void addfirst (int d) {
        if (head == null)
            head = tail = n;
        else { n.next = head;
            head = n; tail.next = head; }
        if (tail != null) tail.next = head;
    }
}
```