

LINKED LIST SINGLY

```
class Node {  
    int data;  
  
    Node next;  
  
    Node(int d) {  
        data = d;  
        next = null;  
    }  
}  
  
public class SinglyLinkedList {  
    Node head;  
  
    // Insert at beginning  
    void insertAtBegin(int data) {  
        Node newNode = new Node(data);  
        newNode.next = head;  
        head = newNode;  
    }  
  
    // Insert at end  
    void insertAtEnd(int data) {  
        Node newNode = new Node(data);  
        if (head == null) {  
            head = newNode;  
            return;  
        }  
        Node temp = head;  
        while (temp.next != null)  
            temp = temp.next;
```

```

    temp.next = newNode;
}

// Insert at specific position (1-based index)
void insertAtPos(int data, int pos) {
    if (pos == 1) {
        insertAtBegin(data);
        return;
    }
    Node newNode = new Node(data);
    Node temp = head;
    for (int i = 1; temp != null && i < pos - 1; i++)
        temp = temp.next;
    if (temp == null) return;
    newNode.next = temp.next;
    temp.next = newNode;
}

// Delete at beginning
void deleteAtBegin() {
    if (head != null)
        head = head.next;
}

// Delete at end
void deleteAtEnd() {
    if (head == null || head.next == null) {
        head = null;
        return;
    }
}

```

```

Node temp = head;

while (temp.next.next != null)

    temp = temp.next;

temp.next = null;
}

// Delete at specific position (1-based index)

void deleteAtPos(int pos) {

    if (pos == 1) {

        deleteAtBegin();

        return;

    }

    Node temp = head;

    for (int i = 1; temp != null && i < pos - 1; i++)

        temp = temp.next;

    if (temp == null || temp.next == null) return;

    temp.next = temp.next.next;

}

// Display

void display() {

    Node temp = head;

    while (temp != null) {

        System.out.print(temp.data + " -> ");

        temp = temp.next;

    }

    System.out.println("null");

}

public static void main(String[] args) {

```

```
SinglyLinkedList list = new SinglyLinkedList();
```

```
list.insertAtBegin(10);
```

```
list.insertAtEnd(20);
```

```
list.insertAtPos(15, 2);
```

```
list.display(); // 10 -> 15 -> 20 -> null
```

```
list.deleteAtBegin();
```

```
list.deleteAtEnd();
```

```
list.display(); // 15 -> null
```

```
list.insertAtEnd(30);
```

```
list.insertAtEnd(40);
```

```
list.deleteAtPos(2);
```

```
list.display(); // 15 -> 40 -> null
```

```
}
```

```
}
```