Khaithik. S. Anan I

IBM18CS040 - A2

ADS LAB

Week 1 - Write DP

Implement Memory efficient doubly LL Using XOR

Pseudo Code:

Insert at beginning

```
fun insertbeg (Node n, int data) {
        newnode = newNode();
        newnode -> data = data;
        newnode -> npx = n;

        if (n) n -> npx = XOR (newnod, n -> npx
                n = newnode;
        }
```

Insert at end

```
fun insertend (Node n, int data) {
    Node new = new Node();
    newn -> data = data;
    if (!n) { new -> npx = n;
              n = newn;
            }
    else { Node curr = n
           Node prev = NULL
           Node next; }
    while (XOR (prev, curr -> npx) != NULL)
    { next = XOR (prev, curr -> npx);
      prev = curr;
      curr = next
```

Khaithik .S. Anand

IBM18CS046 – A2

```
        new n -> npx = curr;
        curr -> npx = XOR (prev, new n);
    }
}
```

XOR Function:

```
fun XOR (NODE a, Node b){

    return (Node) (uintptr_t)(a) ^
        (intptr_t)(b);
```