ADS Lab 1

Program - 1

Arjun A.S
1BM18CS019
A1

```
struct node
{
    int data;
    struct node *link;
};

struct node * XOR (struct node *a, struct node *b)
{
    return (struct node *) ((uintptr_t(a) ^ (uintptr_t(b));
}

void insert_end(int data)
{
    struct node *newnode = new (struct node);
    newnode->data = data;
    newnode -> link = NULL;
    if (head == NULL)
    {
        head = newnode;
    }
    else
    {
        struct node * current = head;
        struct node * prev = NULL;
        struct node * x;
        while (current -> link != prev)
        {
            x = current;
            current = XOR(current -> link, prev);
            prev = x;
        }
        current -> link = XOR (current -> link, new node);
        newnode -> link = current;
    }
}
```

Arjun A.S
IBM18CS019

```
void insert_beginning (int data)
{
        struct node * newnode = new (struct node);
        newnode -> data = data;
        newnode -> link = NULL;
        if (head == NULL)
        {
                head = newnode;

        }
        else
        {
                newnode -> link = head;
                head -> link = XOR (head -> link, newnode);
                head = newnode;
        }

}
```