

```
#include <stdio.h>
```

```
#include <stdlib.h>
```

```
struct Node {
```

```
    int data;
```

```
    struct Node *prev, *next;
```

```
};
```

```
struct Node* createNode(int data) {
```

```
    struct Node* newNode = (struct Node*)malloc(sizeof(struct Node));
```

```
    newNode->data = data;
```

```
    newNode->prev = newNode->next = NULL;
```

```
    return newNode;
```

```
}
```

```
void insertLeft(struct Node** head, struct Node* target, int data) {
```

```
    struct Node* newNode = createNode(data);
```

```
    newNode->next = target ? target : *head;
```

```
    if (target) {
```

```
        newNode->prev = target->prev;
```

```
        target->prev = newNode;
```

```
    }
```

```
    if (newNode->prev)
```

```
        newNode->prev->next = newNode;
```

```
    else
```

```
        *head = newNode;
```

```
}
```

```
void deleteNode(struct Node** head, int value) {
```

```
    struct Node* current = *head;
```

```
    while (current && current->data != value)
```

```

        current = current->next;
    if (!current) {
        printf("Node with value %d not found.\n", value);
        return;
    }
    if (current->prev)
        current->prev->next = current->next;
    else
        *head = current->next;
    if (current->next)
        current->next->prev = current->prev;
    free(current);
    printf("Node with value %d deleted.\n", value);
}

```

```

void displayList(struct Node* head) {
    printf("Doubly Linked List: ");
    while (head) {
        printf("%d <-> ", head->data);
        head = head->next;
    }
    printf("NULL\n");
}

```

```

int main() {
    struct Node* head = createNode(1);
    head->next = createNode(2);
    head->next->prev = head;
    head->next->next = createNode(3);
    head->next->next->prev = head->next;
}

```

```
displayList(head);
```

```
insertLeft(&head, head->next, 5);
```

```
displayList(head);
```

```
deleteNode(&head, 2);
```

```
displayList(head);
```

```
return 0;
```

```
}
```

```
Doubly Linked List: 1 <-> 2 <-> 3 <-> NULL
```

```
Doubly Linked List: 1 <-> 5 <-> 2 <-> 3 <-> NULL
```

```
Node with value 2 deleted.
```

```
Doubly Linked List: 1 <-> 5 <-> 3 <-> NULL
```

```
Doubly Linked List: 1 <-> 2 <-> 3 <-> NULL
```

```
Doubly Linked List: 1 <-> 5 <-> 2 <-> 3 <-> NULL
```

```
Node with value 7 not found.
```

```
Doubly Linked List: 1 <-> 5 <-> 2 <-> 3 <-> NULL
```