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


struct Node {
    int data;
    struct Node* next;
};


void createLinkedList(struct Node** head, int values[], int size) {
    struct Node* temp = NULL;
    for (int i = 0; i < size; i++) {
        struct Node* newNode = (struct Node*)malloc(sizeof(struct Node));
        newNode->data = values[i];
        newNode->next = NULL;

        if (*head == NULL) {
            *head = newNode;
        } else {
            temp = *head;
            while (temp->next != NULL) {
                temp = temp->next;
            }
            temp->next = newNode;
        }
    }
}

void insertAtBeginning(struct Node** head, int data) {
    struct Node* newNode = (struct Node*)malloc(sizeof(struct Node));
    newNode->data = data;
    newNode->next = *head;
    *head = newNode;
}


void insertAtEnd(struct Node** head, int data) {
    struct Node* newNode = (struct Node*)malloc(sizeof(struct Node));
    struct Node* temp = *head;
```

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

    if (*head == NULL) {
        *head = newNode;
    } else {
        while (temp->next != NULL) {
            temp = temp->next;
        }
        temp->next = newNode;
    }
}


void display(struct Node* head) {
    if (head == NULL) {
        printf("List is empty.\n");
        return;
    }

    struct Node* temp = head;
    while (temp != NULL) {
        printf("%d -> ", temp->data);
        temp = temp->next;
    }
    printf("NULL\n");
}

int main() {
    struct Node* head = NULL;


    int values[] = {10, 20, 30};
    createLinkedList(&head, values, 3);
    printf("Linked List after creation:\n");
    display(head);

    insertAtBeginning(&head, 5);
    printf("Linked List after inserting 5 at the beginning:\n");
    display(head);
```

```
    insertAtEnd(&head, 40);
    printf("Linked List after inserting 40 at the end:\n");
    display(head);

    return 0;
}
```

Output

```
Linked List after creation:
10  20  30
Linked List after inserting 5 at the beginning:
5   10  20  30
Linked List after inserting 40 at the end:
5   10  20  30  40
```

Leetcode problem 20 solution