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

// Define node structure
struct Node {
    int data;
    struct Node* next;
};

// Head pointer
struct Node* head = NULL;

// Function to insert at the beginning
void insertAtBeginning(int value) {
    struct Node* newNode = (struct Node*)malloc(sizeof(struct Node));
    newNode->data = value;
    newNode->next = head;
    head = newNode;
}

// Function to insert at the end
void insertAtEnd(int value) {
    struct Node* newNode = (struct Node*)malloc(sizeof(struct Node));
    newNode->data = value;
    newNode->next = NULL;

    if (head == NULL) {
        head = newNode;
        return;
    }

    struct Node* temp = head;
    while (temp->next != NULL)
        temp = temp->next;

    temp->next = newNode;
}

// Function to delete a node by value
void deleteNode(int value) {
    struct Node* temp = head;
    struct Node* prev = NULL;

    // If head needs to be deleted
    if (temp != NULL && temp->data == value) {
        head = temp->next;
        free(temp);
        return;
    }

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    }

    // Search for the node
    while (temp != NULL && temp->data != value) {
        prev = temp;
        temp = temp->next;
    }

    if (temp == NULL) {
        printf("Value not found in the list.\n");
        return;
    }

    prev->next = temp->next;
    free(temp);
}

// Function to display the list
void displayList() {
    struct Node* temp = head;
    if (temp == NULL) {
        printf("List is empty.\n");
        return;
    }

    printf("Linked List: ");
    while (temp != NULL) {
        printf("%d -> ", temp->data);
        temp = temp->next;
    }
    printf("NULL\n");
}

// Main menu-driven program
int main() {
    int choice, value;

    while (1) {
        printf("\n--- Linked List Operations ---\n");
        printf("1. Insert at Beginning\n");
        printf("2. Insert at End\n");
        printf("3. Delete a Node\n");
        printf("4. Display List\n");
        printf("5. Exit\n");
        printf("Enter your choice: ");
        scanf("%d", &choice);

        switch (choice) {

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case 1:
    printf("Enter value to insert: ");
    scanf("%d", &value);
    insertAtBeginning(value);
    break;
case 2:
    printf("Enter value to insert: ");
    scanf("%d", &value);
    insertAtEnd(value);
    break;
case 3:
    printf("Enter value to delete: ");
    scanf("%d", &value);
    deleteNode(value);
    break;
case 4:
    displayList();
    break;
case 5:
    exit(0);
default:
    printf("Invalid choice. Try again.\n");
}
}

return 0;
}
```

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C:\Users\user\OneDrive\Desk X + v

Array Operations Menu:
1. Insert
2. Delete
3. Display
4. Exit
Enter your choice (1-4): 1
Enter element to insert: 10
Enter position (0 to 0): 0
Element inserted successfully.

Array Operations Menu:
1. Insert
2. Delete
3. Display
4. Exit
Enter your choice (1-4): 3
Array elements: 10

Array Operations Menu:
1. Insert
2. Delete
3. Display
4. Exit
Enter your choice (1-4): 4
Exiting program.

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Process exited after 22.12 seconds with return value 0
Press any key to continue . . .
```