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#include <stdio.h>
#include <stdlib.h>
struct Node {
    int data;
    struct Node* next;
};
struct Node* head = NULL;
void insertAtBeginning(int);
void insertAtEnd(int);
void deleteAtBeginning();
void deleteAtEnd();
void display();
int main() {
    int choice, value;
    while (1) {
        printf("\n\n***** MENU *****\n");
        printf("1. Insert at Beginning\n");
        printf("2. Insert at End\n");
        printf("3. Delete at Beginning\n");
        printf("4. Delete at End\n");
        printf("5. Display\n");
        printf("6. Exit\n");
        printf("Enter your choice: ");
        scanf("%d", &choice);
        switch(choice) {
            case 1:
                printf("Enter value to insert: ");
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            scanf("%d", &value);
            insertAtBeginning(value);
            break;
        case 2:
            printf("Enter value to insert: ");
            scanf("%d", &value);
            insertAtEnd(value);
            break;
        case 3:
            deleteAtBeginning();
            break;
        case 4:
            deleteAtEnd();
            break;
        case 5:
            display();
            break;
        case 6:
            exit(0);
        default:
            printf("\nInvalid choice! Try again.");
      }
   }
   return 0;
}
void insertAtBeginning(int value) {
   struct Node* newNode = (struct Node*) malloc(sizeof(struct Node));
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    newNode->data = value;
    newNode->next = head;
    head = newNode;
    printf("\nNode inserted at beginning!");
}
void insertAtEnd(int value) {
    struct Node* newNode = (struct Node*) malloc(sizeof(struct Node));
    struct Node* temp = head;
    newNode->data = value;
    newNode->next = NULL;
    if (head == NULL) {
        head = newNode;
    } else {
        while (temp->next != NULL)
            temp = temp->next;
        temp->next = newNode;
    }
    printf("\nNode inserted at end!");
}
void deleteAtBeginning() {
    if (head == NULL) {
        printf("\nList is empty! Deletion not possible.");
    } else {
        struct Node* temp = head;
        printf("\nDeleted: %d", temp->data);
        head = head->next;
        free(temp);
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    }
}
void deleteAtEnd() {
    if (head == NULL) {
        printf("\nList is empty! Deletion not possible.");
    } else if (head->next == NULL) {
        printf("\nDeleted: %d", head->data);
        free(head);
        head = NULL;
    } else {
        struct Node* temp = head;
        while (temp->next->next != NULL)
            temp = temp->next;
        printf("\nDeleted: %d", temp->next->data);
        free(temp->next);
        temp->next = NULL;
    }
}
void display() {
    if (head == NULL) {
        printf("\nList is empty!");
    } else {
        struct Node* temp = head;
        printf("\nLinked List elements: ");
        while (temp != NULL) {
            printf("%d -> ", temp->data);
            temp = temp->next;
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        }
        printf("NULL");
    }
}
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Output: