

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

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

struct Node* createNode(int newData) {
    struct Node* newNode = (struct Node*)malloc(sizeof(struct Node));
    newNode->data = newData;
    newNode->next = NULL;
    return newNode;
}

struct Node* insertAtFirst(struct Node* head, int newData) {
    struct Node* newNode = (struct Node*)malloc(sizeof(struct Node));
    newNode->data=newData;
    newNode->next = head;
    return newNode;
}

struct Node* insertAtPosition(struct Node* head, int newData, int
position)
{
    struct Node* newNode = (struct Node*)malloc(sizeof(struct Node));
    newNode->data=newData;

    if (position == 1) {
        newNode->next = head;
        return newNode;
    }

    struct Node* temp = head;
    for (int i = 1; i < position - 1 && temp != NULL; i++) {
        temp = temp->next;
    }

    if (temp == NULL) {
        printf("Invalid position\n");
        return head;
    }
}
```

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        newNode->next = temp->next;
        temp->next = newNode;
        return head;
    }

struct Node* insertAtEnd(struct Node* head, int newData)
{
    struct Node* newNode = (struct Node*)malloc(sizeof(struct Node));
    newNode->data=newData;
    newNode->next=NULL;

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

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

    temp->next = newNode;
    return head;
}

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

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

    head = insertAtEnd(head, 1);
    head = insertAtEnd(head, 2);
    head = insertAtEnd(head, 3);

    printf("Linked List: ");
    displayList(head);
}

```

```
head = insertAtFirst(head, 0);

printf("After insertion at first position: ");
displayList(head);

head = insertAtPosition(head, 4, 4);

printf("After insertion at position 4: ");
displayList(head);

head = insertAtEnd(head, 5);

printf("After insertion at end: ");
displayList(head);
}
```

PROBLEMS    DEBUG CONSOLE    TERMINAL    PORTS

```
PS C:\Users\kadab\OneDrive\Desktop\DS> gcc five.c
PS C:\Users\kadab\OneDrive\Desktop\DS> .\a.exe
Linked List: 1 -> 2 -> 3 -> NULL
After insertion at first position: 0 -> 1 -> 2 -> 3 -> NULL
After insertion at position 4: 0 -> 1 -> 2 -> 4 -> 3 -> NULL
After insertion at end: 0 -> 1 -> 2 -> 4 -> 3 -> 5 -> NULL
PS C:\Users\kadab\OneDrive\Desktop\DS> █
```

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After  
After