WAP to Implement Singly Linked List with following operations

a) Create a linked list.

b) Insertion of a node at first position, at any position and

at end of list.

Display the contents of the linked list.

```
#include <stdio.h>

#include <stdlib.h>


struct Node {

    int data;

    struct Node* next;

};


void insertAtBeginning(struct Node** head, int value) {

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

    newNode->data = value;

    newNode->next = *head;

    *head = newNode;

}


void insertAtEnd(struct Node** head, int value) {

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

    struct Node* temp = *head;
```

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

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

    while (temp->next != NULL) {
        temp = temp->next;
    }

    temp->next = newNode;
}

void insertAtPosition(struct Node** head, int value, int
position) {
    if (position <= 0) {
        printf("Invalid position\n");
        return;
    }

    if (position == 1 || *head == NULL) {
        insertAtBeginning(head, value);
        return;
    }

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

```
Node));
    newNode->data = value;
    struct Node* temp = *head;
    int count = 1;

    while (count < position - 1 && temp->next != NULL) {
        temp = temp->next;
        count++;
    }

    if (count < position - 1) {
        printf("Invalid position\n");
        return;
    }

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

void displayLinkedList(struct Node* head) {
    struct Node* temp = head;

    if (temp == NULL) {
        printf("Linked list is empty.\n");
        return;
    }
```

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    while (temp != NULL) {
        printf("%d -> ", temp->data);
        temp = temp->next;
    }

    printf("NULL\n");
}

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

    insertAtBeginning(&head, 10);
    insertAtBeginning(&head, 20);
    insertAtBeginning(&head, 30);

    printf("Linked list after insertion at the beginning: ");
    displayLinkedList(head);

    insertAtEnd(&head, 40);
    insertAtEnd(&head, 50);

    printf("Linked list after insertion at the end: ");
    displayLinkedList(head);

    insertAtPosition(&head, 25, 2);
    insertAtPosition(&head, 35, 4);

    printf("Linked list after insertion at specific positions:
```

```
");
    displayLinkedList(head);
    return 0;
}
```

output:

```
Linked list after insertion at the beginning: 30 -> 20 -> 10 -> NULL
Linked list after insertion at the end: 30 -> 20 -> 10 -> 40 -> 50 -> NULL
Linked list after insertion at specific positions: 30 -> 25 -> 20 -> 35 -> 10 -> 40 -> 50 -> NULL
```