Program: Stack and Queue using Linked Lists

STACK

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#include <stdio.h>
#include <stdlib.h>
void push();
int isEmpty();
void pop();
void peek();
void display();
struct node{
    int data;
    struct node *next;
};
struct node *TOP = NULL;
int main(){
    int choice = 0, element = 0;
    printf("1. Push into Stack \n");
    printf("2. Pop from Stack \n");
    printf("3. Peek from Stack \n");
    printf("4. Display the stack \n");
    while (1){
        printf("Enter your choice: \n");
        scanf("%d", &choice);
        switch (choice){
        case 1:
            push();
            break;
        case 2:
            pop();
            break;
        case 3:
            peek();
            break;
```

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        case 4:
            display();
            break;
        case 5:
            return 0;
        default:
            printf("\nEnter correct choice");
        }
    }
}
int isEmpty(){
    if (TOP == NULL)
        return 1;
    return 0;
}
void push(){
    struct node *newNode;
    newNode = (struct node *)(malloc(sizeof(struct node)));
    printf("Enter element : ");
    scanf("%d", &newNode->data);
    newNode->next = NULL;
    if (isEmpty()){
        TOP = newNode;
    }
    else{
        newNode->next = TOP;
        TOP = newNode;
    }
    printf("Node Inserted\n");
}
void pop(){
    struct node *ptr;
    if (isEmpty()) {       printf("List is Empty\n");
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        return;
    }
    else {
        ptr = TOP;
        TOP = TOP->next;
        free(ptr);
    }
    printf("Node Deleted\n");
}
void peek(){
    struct node *ptr;
    if (isEmpty()){
        printf("Stack Empty\n");
        return;
    }else{
        printf("TOP element : %d\n", TOP->data);
    }
}
void display(){
    struct node *ptr;
    if (TOP == NULL){
        printf("Stack Empty\n");
        return;
    }
    ptr = TOP;
    printf("\n Values of Stack are :");
    while (ptr != NULL){
        printf("%d ", ptr->data);
```