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

typedef struct cllqueue {
    int data;
    struct cllqueue * ptr ;
}cllqueue;

cllqueue * front = NULL , *rear = NULL;

cllqueue * createnode() {
    cllqueue * newnode = (cllqueue *)malloc(sizeof(cllqueue));
    printf("Enter the element to be inserted : ");
    scanf("%d" , &newnode->data);
    newnode->ptr = front;
    return newnode;
}

void insert() {
    if (front == NULL) {
        front = createnode();
        front->ptr = front;
        rear = front;
    }
    else {
        cllqueue * temp = createnode();
        rear->ptr = temp;
        rear = temp;
    }
    printf("Element %d successfully inserted.\n" , rear->data);
}

void delete() {
    if(front == NULL)
        printf("Queue is empty.\n");
    else if(front->ptr == front) {
        printf("Element %d successfully deleted.\n" , front-
>data);
        front = NULL;
        rear = NULL;
    }
    else {
        printf("Element %d successfully deleted.\n" , front-
>data);
        front = front->ptr;
        rear->ptr = front;
    }
}

void display() {
    if(front == NULL)
        printf("Queue is empty.\n");
    else {
        cllqueue * strt = front;
        printf("Elements of queue are : ");
        do {

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        printf("%d ",strt->data);
        strt = strt->ptr;
    }while(strt != front);
    printf("\n");
}

void main() {
    int choice , flag = 1 ;
    printf("Enter the operation to be performed.\n");
    while(flag) {
        printf("1.Insert \t 2.Delete \t 3.Display \t 4.Exit  :
");
        scanf("%d" , &choice);
        switch(choice) {
            case 1 : insert();
                    break;

            case 2 : delete();
                    break;

            case 3 : display();
                    break;

            case 4 : flag = 0 ;
                    break;

            default : printf("Invalid input.\n");
                     break;
        }
    }
}

```