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#include <stdio.h>
#include<stdlib.h>
void push();
void pop();
void display_stack();
struct node
{
   int data;
   struct node *next;
};
void insert();
void display_q();
void del();
struct  node *rear=NULL, *front =NULL;
struct node *top=NULL;

int main(int argc, char **argv)
{
          int choice;
   printf("\nLinked List implementation of stack");
   do
   {
   printf("\n1. Push \n2. Display  \n3. Pop\n4. Exit");
   printf("\nEnter your choice : ");
   scanf("%d",&choice);
   switch(choice)
   {
      case 1: push(); break;
      case 2: display_stack();break;
      case 3: pop(); break;
   }
   }while(choice<=3);
   printf("\nLinked List implementation of queue");
  do
   {
   printf("\nQueue implementation using linked list\n");
   printf("\n1. Create \n2. Display  \n3. Delete  \n4. Exit \n");
   printf("\nEnter your choice : ");
   scanf("%d",&choice);
   switch(choice)
   {
      case 1: insert(); break;
      case 2: display_q();break;
      case 3: del(); break;
   }
   }while(choice<=3);
}


void push()
{
   int item;
   struct node *newnode;
   printf("Enter the element\n");
   scanf("%d",&item);

   newnode=(struct node*)malloc(sizeof(struct node));
   newnode->data=item;
   newnode->next=NULL;
   if(top==NULL)
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        top=newnode;
    else
        newnode->next=top;
        top=newnode;
}
void pop()
{
    if(top==NULL)
        printf("stack is empty");
    else
    {

      printf("element removed is %d:", top->data);

      top=top->next;

    }


}

void display_stack()
{
   struct node *temp;
   temp=top;
   if(top==NULL)
   printf("Stack is empty");
   while(temp!=NULL)
 {
    printf("%d ",temp->data);
    temp=temp->next;
 }

}
void insert()
{
    struct  node *newnode;
    newnode=(struct node *) malloc(sizeof(struct node));
    printf("Enter the element:\n");
    scanf("%d",&newnode->data);
    newnode->next=NULL;

    if(rear==NULL)
    {
        rear=newnode;
        front=newnode;

    }
    else
    {
        rear->next=newnode;
        rear=newnode;
    }
}

void del()
{
    if(front==NULL)
    {
       printf("Queue is empty\n");return;
```

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    }

    else
    {
        printf("Deleted ele is %d",front->data);
        if(front==rear)
        {
           printf("Queue is empty\n");
           front=NULL; rear=NULL;
        }
        else
        front=front->next;
    }
}

void display_q()
{
    struct node *temp;
    if(front ==NULL)
    {
        printf("Queue is empty");
        return;
    }
    temp=front;
    while (temp !=NULL)
    {
        printf("%d ",temp->data);
        temp=temp->next;
    }

}
```