

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

```
struct node
```

```
{
    int data;
    struct node *next;
};
```

```
void create(struct node **);
```

```
void merge(struct node *, struct node *);
```

```
void display(struct node *);
```

```
struct node *third=NULL;
```

```
int main(int argc, char **argv)
```

```
{
    struct node *head1=NULL, *head2=NULL;

    printf("Create two list\n");
    printf("Creating List one\n");
    create(&head1);
    printf("Creating List two\n");
    create(&head2);
    printf("\nList one data:\n");
    display(head1);
    printf("\nList two data:\n");
    display(head2);
    printf("\nMerged List\n");
    merge(head1, head2);
    display(third);
}
```

```
void create(struct node **hptr)
```

```
{
    struct node *newnode, *temp;
    int item;
    char choice;
```



```
void create(struct node **hptr)
```

```
{
```

```
    struct node *newnode, *temp;
```

```
    int item;
```

```
    char choice;
```

```
    do
```

```
    {
```

```
        newnode = (struct node *) malloc(sizeof(struct node));
```

```
        printf("Enter the data : ");
```

```
        scanf("%d", &item);
```

```
        newnode->data=item;
```

```
        newnode->next=NULL;
```

```
        printf("Do u want add element in the list:\n");
```

```
        fflush(stdin);
```

```
        scanf("%c", &choice);
```

```
        if (*hptr==NULL)
```

```
        {
```

```
            *hptr=newnode;
```

```
        }
```

```
        else
```

```
        {
```

```
            temp=*hptr;
```

```
            while(temp->next!=NULL)
```

```
            {
```

```
                temp=temp->next;
```

```
            }
```

```
            temp->next=newnode;
```

```
            newnode->next=NULL;
```

```
        }
```

```
    } while (choice=='y' || choice == 'Y');
```



```

        newnode->next=NULL;
    }
    while (choice=='y' || choice=='Y');
}

```

```

void merge (struct node *temp1, struct node *temp2)
{
    struct node *newnode, *current;

    //temp1=head1;
    //temp2=head2;

    while(temp1!=NULL && temp2!=NULL)
    {
        newnode =(struct node *) malloc (sizeof(struct node));
        newnode->next =NULL;

        if(temp1->data < temp2->data)
        {
            newnode->data = temp1->data;
            temp1=temp1->next;
        }
        else
        {
            newnode->data =temp2->data;
            temp2 =temp2->next;
        }

        if(third ==NULL)
        {
            third=newnode;
            current=newnode;
        }
        else
        {

```



```

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

if(temp1==NULL)
{
    while(temp2!=NULL)
    {
        newnode=(struct node *) malloc(sizeof(struct node));
        newnode->data=temp2->data;
        newnode->next=NULL;
        if(third==NULL)
        {
            third=newnode;
            current =newnode;
        }
        else
        {
            current->next =newnode;
            current=newnode;
        }
        temp2=temp2->next;
    }
}

else
{
    while(temp1!=NULL)
    {
        newnode=(struct node *) malloc(sizeof(struct node));
        newnode->data=temp1->data;
        newnode->next=NULL;
    }
}

```



```
while (temp1!=NULL)
```

```
{
```

```
    newnode=(struct node *)malloc(sizeof(struct node));
```

```
    newnode->data=temp1->data;
```

```
    newnode->next=NULL;
```

```
    if (third==NULL)
```

```
    {
```

```
        third=newnode;
```

```
        current=newnode;
```

```
    }
```

```
    else
```

```
    {
```

```
        current->next=newnode;
```

```
        current=newnode;
```

```
    }
```

```
    temp1=temp1->next;
```

```
}
```

```
void display(struct node *ptr)
```

```
{
```

```
    if (ptr==NULL)
```

```
    {
```

```
        printf("Nothing to print\n");
```

```
    }
```

```
    else
```

```
    {
```

```
        while (ptr!=NULL)
```

```
        {
```

```
            printf("%d ", ptr->data);
```

```
            ptr=ptr->next;
```

```
        }
```

```
}
```



```

    {
        third=newnode;
        current=newnode;
    }
    else
    {
        current->next=newnode;
        current=newnode;
    }
    temp1=temp1->next;
}

```

```

void display(struct node *ptr)

```

```

{
    if(ptr==NULL)
    {
        printf("Nothing to print\n");
    }
    else
    {
        while(ptr!=NULL)
        {
            printf("%d ", ptr->data);
            ptr=ptr->next;
        }
    }
}

```