Single Linked List Sort, Reverse, Concatination.

```
#include<stdio.h>
#include<stdlib.h>
Struct node
{
    int data;
    Struct node* next;
};
void insertend(struct node** head, int value)
{
    Struct node* newNode=(struct node*)malloc(sizeof(struct node));
    newNode->data=value;
    newNode->next=NULL;
    if(*head==NULL)
    {
        *head=newNode;
        return;
    }
    Struct node* current=*head;
    while(current->next!=NULL)
    {
        current=current->next;
    }
    current->next=newNode;
}
printlist(struct node* head)
{
    while(head!=NULL)
    {
        printf("%d->",head->data);
        head=head->next;
    }
    printf("NULL\n");
}
void insertionsort(Struct node** head)
{
```

```
if (*head == NULL || (*head)->next == NULL)
{
   return;
}
Struct node * sorted = NULL;
struct node * current = * head;
while (current != NULL)
{
   struct node* next = current->next;
   if(sorted == NULL || sorted -> data > current -> data)
   {
      current -> next = sorted;
      sorted = current;
   }else{
     Struct node * temp = sorted;
     while (temp -> next != NULL && temp -> next -> data < current -> da
     {
       temp = temp->next;
     }
     current -> next = temp -> next;
     temp -> next = current;
   }
   current = next;
}
*head = sorted; }
void reverselist (struct node **head)
{
   Struct node* prev = NULL;
   Struct node* current = *head;
   Struct node * next = NULL;
   while (current != NULL)
   {
      next = current -> next;
      current -> next = prev;
      prev = current;
      current = next;
   }
```

```
    *head = prev;
}
void concatenatelists(struct node** list1, struct node** list2)
{
    if(*list1==NULL)
    {
        *list1 = *list2;
    }else{
        struct node *current = *list1;
        while(current->next!=NULL)
        {
            current = current->next;
        }
        current->next = *list2;
}}
int main()
{
    Struct node* list1 = NULL;
    Struct node* list2 = NULL;
    insertend(&list1, 1);
    insertend(&list1, 4);
    insertend(&list1, 8);
    insertend(&list2, 10);
    insertend(&list2, 7);
    printlist(list1);
    reverselist(&list);
    printlist(list1);
    printlist(list2);
    concatenatelists(&list1, &list2);
    printlist(list1);
return 0;
}
```

Q:

1 -> 4 -> 8 -> NULL

8 -> 4 -> 1 -> NULL

10 -> 7 -> NULL

8 -> 4 -> 1 -> 10 -> 7 -> NULL

oxyBlocks Settings Help

x qll.c x 000.c x

C:\Users\User\Desktop\1BM22CS312\000.exe

```
1 4 8
10 7
8 4 1 10 7

Process returned 0 (0x0)   execution time : 0.011 s
Press any key to continue.
```