

07/12/2020

WAS to implement Singly linked list with following operations

(a) Sort the linked list

(b) Reverse the linked list

(c) Concatenation of 2 linked list

```
void sort(struct node **head)
{
    struct node *temp1 = *head;
    struct node *temp2 = *head;
    if (temp1 == NULL)
        printf("list is empty")
    else if (temp1->next == NULL)
        printf("Only element in the list %d\n", temp1->data);
    else
    {
        int a;
        for (temp1 = *head; temp1 != NULL; temp1 = temp1->next)
        {
            for (temp2 = temp1->next; temp2 != NULL; temp2 = temp2->next)
            {
                if ((temp1->data) > temp2->data)
                {
                    int a = temp1->data;
                    temp1->data = temp2->data;
                    temp2->data = a;
                }
            }
        }
        display_sorted_list(head);
    }
}
```

```
display(struct node *head)
```

```
{ struct node *temp = head;  
  printf("Sorted elements are:");  
  while(temp != NULL)  
  {  
    printf("%d", temp->data);  
    temp = temp->next;  
  }  
  printf("\n");  
}
```

```
void reverse(struct node *head)
```

```
{ struct node *prev = NULL  
  struct node *next = NULL;  
  while(head != NULL)  
  {  
    next = head->next;  
    head->next = prev;  
    prev = head;  
    head = next;  
  }  
  head = prev;
```

```
}
```

```
struct node *concat (struct node *** head  
                    struct node *** head2)
```

```
{  
    struct node *ptr;  
    if (*head == NULL)  
    {  
        *head = *head2;  
    }
```

```
    if (head2 == NULL)  
        return *head;
```

```
    ptr = *head;  
    while (ptr->next != NULL)  
        ptr = ptr->next;  
    ptr->next = *head2;  
    return *head;
```

```
}
```