

## C Program to remove duplicates from a linked list

```
#include<stdio.h>
#include<stdlib.h>
struct node
{
    int data;
    struct node* next;
};

/* Function to insert a node */
void insert_elements(struct node** head, int new_data)
{
    struct node* new_node = (struct node*) malloc(sizeof(struct node));
    new_node -> data = new_data;
    new_node -> next = (*head);
    (*head) = new_node;
}

/* Function to print nodes */
void display_list(struct node *node)
{
    while (node!=NULL)
    {
        printf("%d ", node->data);
        node = node -> next;
    }
}

/* Function to remove duplicates from a sorted list */
void remove_duplicate_elements(struct node* head)
{
    struct node* current = head;

    struct node* next_next;

    if (current == NULL)
        return;

    while (current -> next != NULL)
    {
        /* Compare current node with its next */
        if (current -> data == current -> next -> data)
        {
            next_next = current -> next -> next;
            free(current -> next);
            current -> next = next_next;
        }
        else
        {
            current = current -> next;
        }
    }
}

int main()
{

```

```

    struct node* head = NULL;
    int n;
    printf("Enter the total number of elements : ");
    scanf("%d", &n);
    printf("\nEnter the sorted linked list : ");
    int i;
    for(i = 0; i < n; i++)
    {
        int data;
        scanf("%d", &data);
        insert_elements(&head, data);
    }

    printf("\nLinked list before removing duplicates : ");
    display_list(head);
    printf("\n");

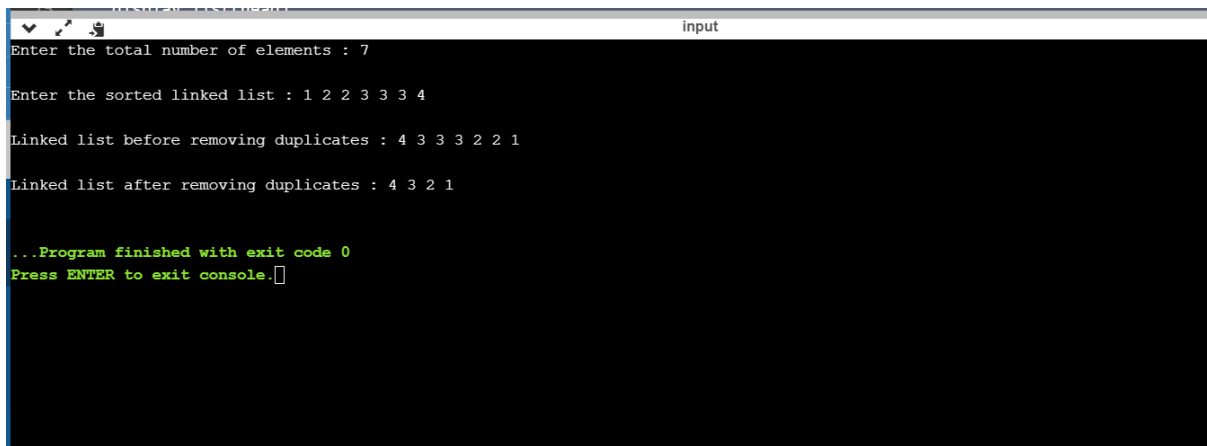
    remove_duplicate_elements(head);

    printf("\nLinked list after removing duplicates : ");
    display_list(head);
    printf("\n");


    return 0;
}

```

## OUTPUT



The screenshot shows a terminal window titled 'input' with the following output:

```

Enter the total number of elements : 7

Enter the sorted linked list : 1 2 2 3 3 3 4

Linked list before removing duplicates : 4 3 3 3 2 2 1

Linked list after removing duplicates : 4 3 2 1

...Program finished with exit code 0
Press ENTER to exit console.

```