```c
/*
*Name = Rishabh
*Reg No = 201800631
*Dept = IT
*Lab Date = 9 Sep 2020
*Lab Work : 5
*
*AIM : C program to insert an element in a sorted linked list.
*/

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


struct Node {
    int data;
    struct Node* next;
};


void sortedInsert(struct Node** head_ref,
                  struct Node* new_node)
{
    struct Node* current;
    /* Special case for the head end */
    if (*head_ref == NULL
        || (*head_ref)->data
               >= new_node->data) {
        new_node->next = *head_ref;
        *head_ref = new_node;
    }
    else {

        current = *head_ref;
        while (current->next != NULL
               && current->next->data < new_node->data) {
            current = current->next;
        }
        new_node->next = current->next;
        current->next = new_node;
    }
}



/* A utility function to create a new node */
struct Node* newNode(int new_data)
{
    /* allocate node */
    struct Node* new_node
= (struct Node*)malloc(
sizeof(struct Node));

    /* puting in the data  */
    new_node->data = new_data;
    new_node->next = NULL;

    return new_node;
}

/* Function to print linked list */
void printList(struct Node* head)
{
    struct Node* temp = head;
    while (temp != NULL) {
        printf("%d  ", temp->data);
        temp = temp->next;
    }
}

/* Driver program to test count function*/
void main()
{

    struct Node* head = NULL;
    struct Node* new_node = newNode(5);
    sortedInsert(&head, new_node);
    new_node = newNode(10);
    sortedInsert(&head, new_node);
    new_node = newNode(7);
    sortedInsert(&head, new_node);
    new_node = newNode(3);
    sortedInsert(&head, new_node);
    new_node = newNode(1);
    sortedInsert(&head, new_node);
    new_node = newNode(9);
    sortedInsert(&head, new_node);
    printf("\n Created Linked List\n");
    printList(head);
}
```

Q1.c - DS Labs - Visual Studio Code

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EXPLORER

OPEN EDITORS

DS LABS

- Lab Aug 12 2020
- Lab Aug 19 2020
- Lab Aug 26 2020
- Lab Sep 02 2020
- Lab Sep 09 2020

Q1.c

Lab Sep 09 2020 > Q1.c > main()

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

/* Driver program to test count function*/
void main()
{

    struct Node* head = NULL;
    struct Node* new_node = newNode(5);
    sortedInsert(&head, new_node);
    new_node = newNode(10);
    sortedInsert(&head, new_node);
    new_node = newNode(7);
    sortedInsert(&head, new_node);
    new_node = newNode(3);
    sortedInsert(&head, new_node);
    new_node = newNode(1);
    sortedInsert(&head, new_node);
    new_node = newNode(9);
    sortedInsert(&head, new_node);
    printf("\n Created Linked List\n");
    printList(head);
    printf("\n");
}
```

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

1: bash

```
rishabh@DESKTOP-AUG0508U:/media/rishabh/Backup Plus/Vlabs/DS Labs/Lab Sep 09 2020$ gcc Q1.c
rishabh@DESKTOP-AUG0508U:/media/rishabh/Backup Plus/Vlabs/DS Labs/Lab Sep 09 2020$ ./a.out

 Created Linked List
1  3  5  7  9  10  rishabh@DESKTOP-AUG0508U:/media/rishabh/Backup Plus/Vlabs/DS Labs/Lab Sep 09 2020$ gcc Q1.c
rishabh@DESKTOP-AUG0508U:/media/rishabh/Backup Plus/Vlabs/DS Labs/Lab Sep 09 2020$ ./a.out

 Created Linked List
1  3  5  7  9  10
rishabh@DESKTOP-AUG0508U:/media/rishabh/Backup Plus/Vlabs/DS Labs/Lab Sep 09 2020$
```

OUTLINE

TIMELINE

NPM SCRIPTS

MAVEN

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