

# Rajalakshmi Engineering College

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## NeoColab\_REC\_CS23231\_DATA STRUCTURES

### REC\_DS using C\_Week 1\_COD\_Question 4

Attempt : 1  
Total Mark : 10  
Marks Obtained : 10

#### Section 1 : Coding

##### 1. Problem Statement

As part of a programming assignment in a data structures course, students are required to create a program to construct a singly linked list by inserting elements at the beginning.

You are an evaluator of the course and guide the students to complete the task.

##### ***Input Format***

The first line of input consists of an integer N, which is the number of elements.

The second line consists of N space-separated integers.

##### ***Output Format***

The output prints the singly linked list elements, after inserting them at the beginning.

Refer to the sample output for formatting specifications.

### **Sample Test Case**

Input: 5

78 89 34 51 67

Output: 67 51 34 89 78

### **Answer**

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

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

```
// You are using GCC
```

```
void insertAtFront(struct Node **head, int value){
    struct Node *nd=(struct Node*)malloc(sizeof(struct Node));
    if (nd!=NULL){
        nd->data=value;
        if (*head==NULL){
            *head=nd;
        }
        else{
            struct Node *temp=*head;
            nd->next=temp;
            *head=nd;
        }
    }
}
```

```
void printList(struct Node *head){
    struct Node *temp=head;
    while(temp!=NULL){
        printf("%d ", temp->data);
```

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

int main(){
    struct Node* head = NULL;

    int n;
    scanf("%d", &n);

    for (int i = 0; i < n; i++) {
        int activity;
        scanf("%d", &activity);
        insertAtFront(&head, activity);
    }

    printList(head);
    struct Node* current = head;
    while (current != NULL) {
        struct Node* temp = current;
        current = current->next;
        free(temp);
    }

    return 0;
}
```

**Status :** Correct

**Marks :** 10/10