

# 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* newNode = (struct Node*)malloc(sizeof(struct Node));
    newNode->data=value;
    newNode->next=*head;
    *head=newNode;
}
```

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

```
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