

# Rajalakshmi Engineering College

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Branch: REC

Department: I AIML AD

Batch: 2028

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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 data){
    struct Node*newNode=(struct Node*)malloc(sizeof(struct Node));
    if(newNode==NULL){
        return;
    }
    newNode->data=data;
    newNode->next=*head;
    *head=newNode;
}
```

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