

# Rajalakshmi Engineering College

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## NeoColab\_REC\_CS23231\_DATA STRUCTURES

### REC\_DS using C\_Week 1\_COD\_Question 6

Attempt : 1  
Total Mark : 10  
Marks Obtained : 10

#### Section 1 : Coding

##### 1. Problem Statement

John is tasked with creating a program to manage student roll numbers using a singly linked list.

Write a program for John that accepts students' roll numbers, inserts them at the end of the linked list, and displays the numbers.

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

The first line of input consists of an integer N, representing the number of students.

The second line consists of N space-separated integers, representing the roll numbers of students.

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

The output prints the space-separated integers singly linked list, after inserting the roll numbers of students at the end.

Refer to the sample output for formatting specifications.

### **Sample Test Case**

Input: 5

23 85 47 62 31

Output: 23 85 47 62 31

### **Answer**

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

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

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

```
struct Node{
```

```
    int data;
```

```
    struct Node* next;
```

```
};
```

```
struct Node* insert(struct Node* head, int value){
```

```
    struct Node* newNode = (struct Node*)malloc(sizeof(struct Node));
```

```
    newNode->data = value;
```

```
    newNode->next = NULL;
```

```
    if (head==NULL){
```

```
        return newNode;
```

```
    }
```

```
    struct Node* temp = head;
```

```
    while(temp->next!=NULL){
```

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

```
    }
```

```
    temp->next = newNode;
```

```
    return head;
```

```
}
```

```
void printList(struct Node* head){
```

```
    struct Node* temp = head;
```

```
    while(temp!=NULL){
```

```
        printf("%d",temp->data);  
        temp = temp->next;  
    }  
}
```

```
void freeList(struct Node* head){  
    struct Node* temp;  
    while(head!=NULL){  
        temp = head;  
        head = head->next;  
        free(temp);  
    }  
}
```

```
int main(){  
    int n;  
    scanf ("%d",&n);  
    struct Node* head =NULL;  
    for (int i=0;i<n;i++){  
        int v;  
        scanf("%d",&v);  
        head = insert(head,v);  
    }  
    printList(head);  
}
```

**Status :** Correct

**Marks :** 10/10