

# Rajalakshmi Engineering College

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## NeoColab\_REC\_CS23231\_DATA STRUCTURES

### REC\_DS using C\_Week 2\_COD\_Question 4

Attempt : 1  
Total Mark : 10  
Marks Obtained : 10

#### Section 1 : Coding

##### 1. Problem Statement

Ravi is developing a student registration system for a college. To efficiently store and manage the student IDs, he decides to implement a doubly linked list where each node represents a student's ID.

In this system, each student's ID is stored sequentially, and the system needs to display all registered student IDs in the order they were entered.

Implement a program that creates a doubly linked list, inserts student IDs, and displays them in the same order.

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

The first line contains an integer N the number of student IDs.

The second line contains N space-separated integers representing the student IDs.

### **Output Format**

The output should display the single line containing N space-separated integers representing the student IDs stored in the doubly linked list.

Refer to the sample output for formatting specifications.

### **Sample Test Case**

Input: 5

10 20 30 40 50

Output: 10 20 30 40 50

### **Answer**

```
#include<stdio.h>
#include<stdlib.h>
typedef struct node{
    int data;
    struct node *prev,*next;
}node;
node* cnode(int data){
    node*newn=(node*)malloc(sizeof(node));
    newn->data=data;
    newn->prev=NULL;
    newn->next=NULL;
    return newn;
}
void insert(node**head,int val){
    node* newn=cnode(val);
    if(*head==NULL){
        *head=newn;
    }
    else{
        node* temp=*head;
        while(temp->next!=NULL){
            temp=temp->next;
        }
        temp->next=newn;
```

```
    }  
  }  
  void dis(node* head){  
    node* temp=head;  
    while(temp!=NULL){  
      printf("%d ",temp->data);  
      temp=temp->next;  
    }  
  }  
  int main()  
  {  
    node* head=NULL;  
    int n,val;  
    scanf("%d",&n);  
    for(int i=0; i<n; i++){  
      scanf("%d",&val);  
      insert(&head,val);  
    }  
    dis(head);  
  }
```

**Status :** Correct

**Marks :** 10/10