# 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>

struct node{
   int data;
   struct node*prev;
   struct node*next;
}*head=NULL,*temp=NULL;

void insert(int n){
   for(int i=0;i<n;i++){
      struct node* newnode=(struct node*)malloc(sizeof(struct node));
      scanf("%d",&newnode->data);
      newnode->prev=NULL;
      newnode->next=NULL;
      if(head==NULL){
         head=newnode;
      }
      else{
         temp->next=newnode;
         newnode->prev=temp;
      }
      temp=newnode;
   }
```

```
}

void traverse(){
    temp=head;
    while(temp!=NULL){
        printf("%d ",temp->data);
        temp=temp->next;
    }
}

int main(){
    int n;
    scanf("%d",&n);
    insert(n);
    traverse();
}
```

***Status :*** Correct **Marks : 10/10**