

# Rajalakshmi Engineering College

Name: Ishwarya L  
Email: 241801098@rajalakshmi.edu.in  
Roll no: 241801098  
Phone: 7094493654  
Branch: REC  
Department: I AI & DS FB  
Batch: 2028  
Degree: B.E - AI & DS

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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**

```
// You are using GCC
#include<stdio.h>
#include<stdlib.h>
typedef struct node
{
    int id;
    struct node* prev;
    struct node* next;
}node;
node* head;

node* insertAtlast(node* head,int identity)
{
    node* newnode=(node*)malloc(sizeof(node));
    newnode->id=identity;
    newnode->next=NULL;
    node* pos=head;
    if(head==NULL)
    {
        head=newnode;
        newnode->prev=NULL;
    }
    else
    {
```

```

        while(pos->next!=NULL)
        {
            pos=pos->next;
        }
        newnode->prev=pos;
        pos->next=newnode;

    }
    return head;
}

void printid(node* head)
{
    node* pos=head;
    while(pos->next!=NULL)
    {
        printf("%d ",pos->id);
        pos=pos->next;
    }
    printf("%d ",pos->id);
}

int main()
{
    int n,iden;
    scanf("%d",&n);
    for(int i=0;i<n;i++)
    {
        scanf("%d",&iden);
        head=insertAtlast(head,iden);
    }
    printid(head);
}

```

**Status :** Correct

**Marks :** 10/10