# 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***

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

};
struct node* head = NULL;
void append(int id)
{
   struct node* newNode = (struct node*)malloc(sizeof(struct node));
   newNode->id = id;
   newNode->prev = NULL;
   newNode->next = NULL;
   if(head == NULL)
   {
      head = newNode;
   }
   else
   {
      struct node* temp = head;
      while(temp->next != NULL)
```

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```
        {
            temp = temp->next;
        }
        temp->next = newNode;
        newNode->prev = temp;
    }

}
void display()
{
    struct node* temp = head;
    while(temp != NULL)
    {
        printf("%d",temp->id);
        temp = temp->next;
    }
    printf("\n");
}
int main()
{
    int n,id;
    scanf("%d",&n);
    for(int i=0;i<n;i++)
    {
        scanf("%d",&id);
        append(id);
    }
    display();
    return 0;
}
```

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

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