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){
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();
}
```

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