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* next;
   struct node* prev;
};

struct node* in(struct node* head,int data){
   struct node* newnode=(struct node*)malloc(sizeof(struct node));
   newnode->data=data;
   newnode->next=NULL;
   newnode->prev=NULL;
   if(head==NULL)
{
   head=newnode;
   return head;
}
struct node* temp=head;
while(temp->next!=NULL){
   temp=temp->next;

}
temp->next=newnode;
```

```
newnode->prev=temp;
return head;

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

}
int main(){
   struct node* head=NULL;
   int a,i,d;
   scanf("%d",&a);
   for(i=0;i<a;i++){
      scanf("%d",&d);
      head=in(head,d);
   }
   display(head);
  return 0;



}
```

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

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