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 id;
   struct Node* next;
   struct Node* prev;
};
int main()
{
   int n,id;
   struct Node* head=NULL,*tail=NULL,*newNode;
   scanf("%d",&n);
   for(int i=0;i<n;i++)
   {
      scanf("%d",&id);
      newNode=(struct Node*)malloc(sizeof(struct Node));
      newNode->id=id;
      newNode->next=NULL;
      newNode->prev=tail;
      if(head==NULL)
      {
         head=newNode;
      }
```

```
        else
        {
            tail->next=newNode;
        }
        tail=newNode;
    }
    while(head!=NULL)
    {
        printf("%d",head->id);
        head=head->next;
    }
    return 0;
}
```

Status : Correct *Marks : 10/10*