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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,*pre;
}*head=NULL;
typedef struct node Node;
void insert(int x)
{
   Node*newnode=(Node*)malloc(sizeof(Node));
   newnode->data=x;
   newnode->next=NULL;
   newnode->pre=NULL;
   if(head==NULL)
   {
      head=newnode;
   }
   else
   {
      Node*temp=head;
      while(temp->next!=NULL)
      {
         temp=temp->next;
```

```
        }
        temp->next=newnode;
        newnode->pre=temp;
    }
}
void dis()
{
    Node*temp=head;
    while(temp!=NULL)
    {
        printf("%d ",temp->data);
        temp=temp->next;
    }
}
int main()
{
    int n,elements;
    scanf("%d",&n);
    for(int i=0;i<n;i++)
    {
        scanf("%d",&elements);
        insert(elements);
    }
    dis();
}
```

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