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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 data;
    struct node*next ;
    struct node*prev;
};
int main(){
    int n;
    scanf("%d",&n);
    int value;
    scanf("%d",&value);
    struct node*head=(struct node*)malloc(sizeof(struct node));
    head->data=value;
    head->prev=NULL;
    head->next=NULL;
    struct node*tail=head;
    for(int i=1;i<n;i++){
        scanf("%d",&value);
    struct node*newnode=(struct node*)malloc(sizeof(struct node));
    newnode->data=value;
    newnode->prev=tail;
    newnode->next=NULL;
```

```
    tail->next=newnode;
    tail =newnode;}
struct node*current=head;
while(current!=NULL){
    printf("%d ",current->data);
    current=current->next;
}printf("\n");
return 0;
}
```

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