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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>

typedef struct Node {
   int id; struct Node *next,*prev;
} Node;
int main(){
   int n, id;
   Node *head = NULL,*tail =NULL,
   *newNode;
   scanf("%d",&n);
   while(n--){
      scanf("%d",&id);
      newNode = (Node*)malloc(sizeof(Node));
      newNode->id = id;
      newNode->next = NULL;
      if(!head)head = tail = newNode;
      else tail = tail->next = (newNode->prev = tail, newNode);
   }
   for(Node* p = head;p;p=p->next) printf("%d",p->id);
}
```

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