Rajalakshmi Engineering College

Name: Devyesh Chellappan
Email: 241801049@rajalakshmi.edu.in
Roll no: 241801049
Phone: 7708811709
Branch: REC
Department: I AI & DS FB
Batch: 2028
Degree: B.E - AI & DS

Scan to verify results

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;
};
typedef struct node Node;
Node*head = NULL;

void Insert(int x){
   Node*newnode= (Node*)malloc(sizeof(Node));
   newnode->ID = x;
   newnode->next=NULL;
   if(head==NULL){
      head = newnode;
   }
   else{
      Node*pos = head;
      while(pos->next!=NULL){
         pos = pos->next;
      }
      pos->next= newnode;
```

```
    }
}

void Traverse(){
    Node*pos = head;
    while(pos!=NULL){
        printf("%d ", pos->ID);
        pos = pos->next;
    }
}

int main(){
    int n, ID;
    scanf("%d", &n);
    for(int i = 0; i<n; i++){
        scanf("%d ", &ID);
        Insert(ID);
    }
    Traverse();
}
```

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