Rajalakshmi Engineering College

Name: Hari vijay
Email: 240801110@rajalakshmi.edu.in
Roll no: 2116240801110
Phone: 7550073737
Branch: REC
Department: I ECE FB
Batch: 2028
Degree: B.E - ECE

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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 stu{
   int id;
   struct stu* pr;
   struct stu* n;

};
typedef struct stu s;
s*head=NULL;
void add(int d){
   s* s1=(s*)malloc(sizeof(s));
   s1->id=d;
   s1->n=NULL;
   if(head==NULL){
      s1->pr=NULL;
      head=s1;
   }
   else{
      s *t=head;
      while(t->n!=NULL){
         t=t->n;

      }
```

```
        s1->pr=t;
        t->n=s1;
    }
}
void display(){
    s* t=head;
    while(t->n!=NULL){
        printf("%d ",t->id);
        t=t->n;
    }printf("%d",t->id);
}
int main(){
    int n;
    scanf("%d",&n);
    for(int i=0;i<n;i++){
        int a;
        scanf("%d",&a);
        add(a);
    }
    display();
}
```

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