Rajalakshmi Engineering College

Name: SIVAGURU D
Email: 240701517@rajalakshmi.edu.in
Roll no: 240701517
Phone: 9345616842
Branch: REC
Department: I CSE FE
Batch: 2028
Degree: B.E - CSE

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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{
   struct node *p;
   int e;
   struct node *n;
};
typedef struct node Node;
Node *l=NULL;
void insert(int a)
{
   Node *ne=(Node *)malloc(sizeof(Node));
   ne->e=a;
   ne->n=NULL;
   ne->p=NULL;
   if(l==NULL)
   {
      l=ne;
   }
   else
   {
      Node *po=l;
      while(po->n!=NULL)
      po=po->n;
```

```
        po->n=ne;
        ne->p=po;
    }
}
void print()
{
    Node *po=l;
    while(po!=NULL)
    {
        printf("%d ",po->e);
        po=po->n;
    }
}
int main()
{
    int n;
    scanf("%d",&n);
    for(int i=0;i<n;i++)
    {
        int a;
        scanf("%d ",&a);
        insert(a);
    }
    print();
    return 0;
}
```

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