Rajalakshmi Engineering College

Name: shreenidhi t
Email: 240701503@rajalakshmi.edu.in
Roll no: 240701503
Phone: 9150942326
Branch: REC
Department: I CSE FE
Batch: 2028
Degree: B.E - CSE

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>
typedef struct Node
{
   int data;
   struct Node*prev;
   struct Node*next;
}Node;
Node*createNode(int data)
{
   Node*newNode=(Node*)malloc(sizeof(Node));
   newNode->data=data;
   newNode->prev=NULL;
   newNode->next=NULL;
   return newNode;
}
void insertEnd(Node**head,int data)
{
   Node*newNode=createNode(data);
   if(*head==NULL)
   {
      *head=newNode;
      return;
   }
```

```
    Node*temp=*head;
    while(temp->next!=NULL)
    temp=temp->next;
    temp->next=newNode;
    newNode->prev=temp;
}
void display(Node*head)
{
    Node*temp=head;
    while(temp!=NULL)
    {
        printf("%d",temp->data);
        if(temp->next!=NULL)
        printf(" ");
        temp=temp->next;
    }
}
int main()
{
    int n,val;
    Node*head=NULL;
    scanf("%d",&n);
    for(int i=0;i<n;i++)
    {
        scanf("%d",&val);
        insertEnd(&head,val);
    }
    display(head);
    return 0;
}
```

Status : Correct *Marks : 10/10*