Rajalakshmi Engineering College

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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 data;
    struct node *prev;
    struct node *next;
} node;
node* create(int data){
    node *newnode=(node*)malloc(sizeof(node));
    newnode->data=data;
    newnode->prev=NULL;
    newnode->next=NULL;
    return newnode;
}
int main(){
    int n;
    scanf("%d",&n);
    node* head=NULL,*tail=NULL;
    for(int i=0;i<n;i++){
        int value;
        scanf("%d",&value);
        node* newnode=create(value);
        if(head==NULL){
```

```
            head=tail=newnode;
        }
        else{
            tail->next=newnode;
            newnode->prev=tail;
            tail=newnode;
        }
    }
    node* current=head;
    while(current !=NULL){
        printf("%d",current->data);
        if(current->next!=NULL)
          printf(" ");
        current=current->next;
    }
    return 0;
}
```

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