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>
struct node{
   int data;
   struct node*right,*left;
};
void insert(struct node**head,int data){
   struct node*newnode=(struct node*)malloc(sizeof(struct node));
   newnode->data=data;
   newnode->right=NULL;
   newnode->left=NULL;
   if(*head==NULL) *head=newnode;
   else{
      struct node*temp=*head;
      while(temp->right) temp=temp->right;
      temp->right=newnode;
      newnode->left=temp;
   }
}
void traverse(struct node*head){
   struct node*temp=head;
   while(temp){
      printf("%d ",temp->data);
```

```
        temp=temp->right;
    }
    printf("\n");
}
int main(){
    int n,data;
    struct node*head=NULL;
    scanf("%d",&n);
    for(int i=0;i<n;i++){
        scanf("%d",&data);
        insert(&head,data);
    }
    traverse(head);
}
```

Status : Correct *Marks : 10/10*