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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
{
   int data;
   struct node* blink,*flink;
};
void insertatend(struct node** head,int x)
{
   struct node* newnode;
   newnode=(struct node*)malloc(sizeof(struct node));
   if (newnode!=NULL)
   {
      if (*head==NULL)
      {
         newnode->data=x;
         newnode->blink=NULL;
         newnode->flink=NULL;
         *head=newnode;
      }
      else
      {
         struct node*p;
```

```
        p=*head;
        while (p->flink !=NULL)
          p=p->flink;
        newnode->data=x;
        newnode->flink=NULL;
        p->flink=newnode;
        newnode->blink=p;
      }
    }
}
int main()
{
    struct node* head=NULL;
    int n,x;
    scanf("%d",&n);
    for (int i=0;i<n;i++)
    {
        scanf("%d",&x);
        insertatend(&head,x);
    }
    struct node *p=head;
    while (p!=NULL){
        printf("%d ",p->data);
        p=p->flink;
    }

}
```

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