

Rajalakshmi Engineering College

Name: NISHANTH B
Email: 240701364@rajalakshmi.edu.in
Roll no: 240701364
Phone: 7904264876
Branch: REC
Department: I CSE FD
Batch: 2028
Degree: B.E - CSE

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NeoColab_REC_CS23231_DATA STRUCTURES

REC_DS using C_Week 2_COD_Question 3

Attempt : 1
Total Mark : 10
Marks Obtained : 10

Section 1 : Coding

1. Problem Statement

Bob is tasked with developing a company's employee record management system. The system needs to maintain a list of employee records using a doubly linked list. Each employee is represented by a unique integer ID.

Help Bob to complete a program that adds employee records at the front, traverses the list, and prints the same for each addition of employees to the list.

Input Format

The first line of input consists of an integer N, representing the number of employees.

The second line consists of N space-separated integers, representing the employee IDs.

Output Format

For each employee ID, the program prints "Node Inserted" followed by the current state of the doubly linked list in the next line, with the data values of each node separated by spaces.

Refer to the sample output for formatting specifications.

Sample Test Case

Input: 4

101 102 103 104

Output: Node Inserted

101

Node Inserted

102 101

Node Inserted

103 102 101

Node Inserted

104 103 102 101

Answer

```
#include <iostream>
using namespace std;
```

```
struct node {
    int info;
    struct node* prev, * next;
};
```

```
struct node* start = NULL;
```

```
// You are using GCC
```

```
struct node* head = NULL;
```

```
void traverse() {
```

```
    //type your code here
```

```
    struct node* temp = head;
```

```
    while (temp != NULL) {
```

```
        cout << temp->info;
```

```
        if (temp->next != NULL) {
```

```
            cout << " ";
```

```

    }
    temp = temp->next;
}
cout << endl;
}

void insertAtFront(int data) {
    //type your code here
    struct node* new_node = (struct node*)malloc(sizeof(struct node));
    new_node->info = data;
    new_node->next = head;
    new_node->prev = NULL;

    if (head != NULL) {
        head->prev = new_node;
    }

    head = new_node;
    cout << "Node Inserted ";
    // Print the current state of the list
    cout << endl;
}

int main() {
    int n, data;
    cin >> n;
    for (int i = 0; i < n; ++i) {
        cin >> data;
        insertAtFront(data);
        traverse();
    }
    return 0;
}

```

Status : Correct

Marks : 10/10