

**MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR**

**(A Govt Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV, Bhopal)**

re

**Data Structure Lab**

ASSIGNMENT 2



SUBMITTED BY:

ASMITA JAIN

0901EO201017

SUBMITTED TO:

PROF. NAMRATA AGRAWAL

**Introduction:**

**Problem statement:** Write a program for insertion and deletion in linked list.

**Program code:**

#include <iostream>

#include <malloc.h>

#include <process.h>

using namespace std;

struct node

{

int a;

node \*next;

} \*head = NULL;

void insert(int newdata)

{

node p = (node)malloc(sizeof(node));

p->a = newdata;

p->next = head;

head = p;

}

void display()

{

node \*item;

item = head;

cout << "\nLIST :\n";

while (item != NULL)

{

cout << "node item : " << item->a << endl;

item = item->next;

}

}

void delete\_(int key)

{

int flag = 0;

if (head == NULL)

cout << "\no element";

else

{

node \*temp;

if (head->a == key)

{

temp = head;

head = head->next;

cout << "\nNode deleted ";

free(temp);

}

else

{

node \*item;

item = head;

while (item->next != NULL)

{

if (item->next->a == key)

{

temp = item->next;

item->next = item->next->next;

free(temp);

flag = 1;

cout << "\nnode deleted!";

break;

}

else

item = item->next;

}

if (flag == 0)

cout << "\nNO such element";

}

}

}

int main()

{

int ch = 1, data, choice, key;

while (ch)

{

cout << "\n------MENU-------" << endl;

cout << "1----insert" << endl;

cout << "2----delete" << endl;

cout << "3----display" << endl;

cout << "4----exit" << endl;

cout << "enter you choice---";

cin >> choice;

switch (choice)

{

case 1:

cout << "\nenter element data: ";

cin >> data;

insert(data);

break;

case 2:

cout << "\nEnter element data to be deleted: ";

cin >> key;

delete\_(key);

break;

case 3:

display();

break;

case 4:

exit(0);

default:

cout << "\nWrong choice entered";

}

cout << "\nDO YOU WANT TO CONTINUE?(0/1)";

cin >> ch;

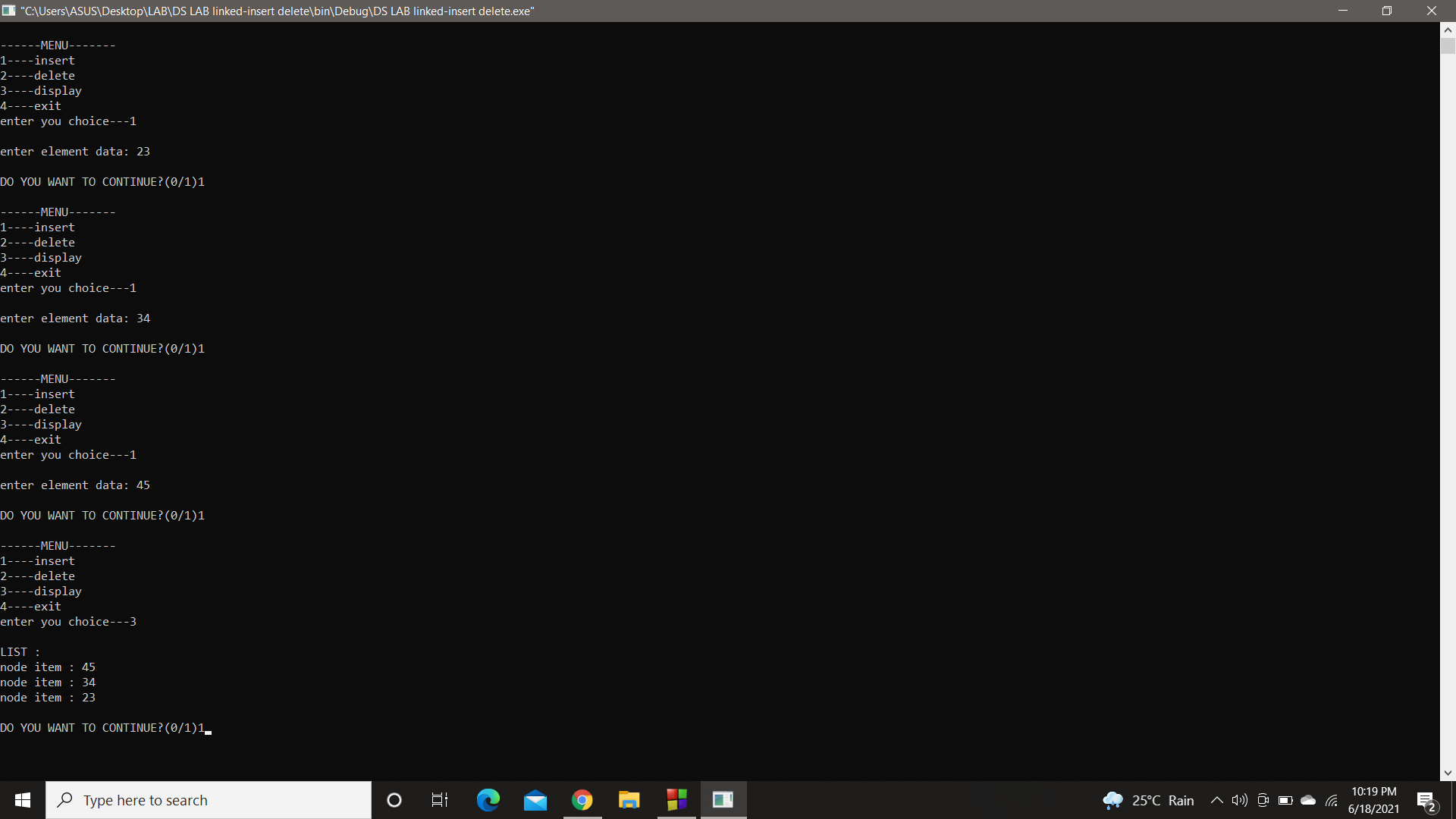
}

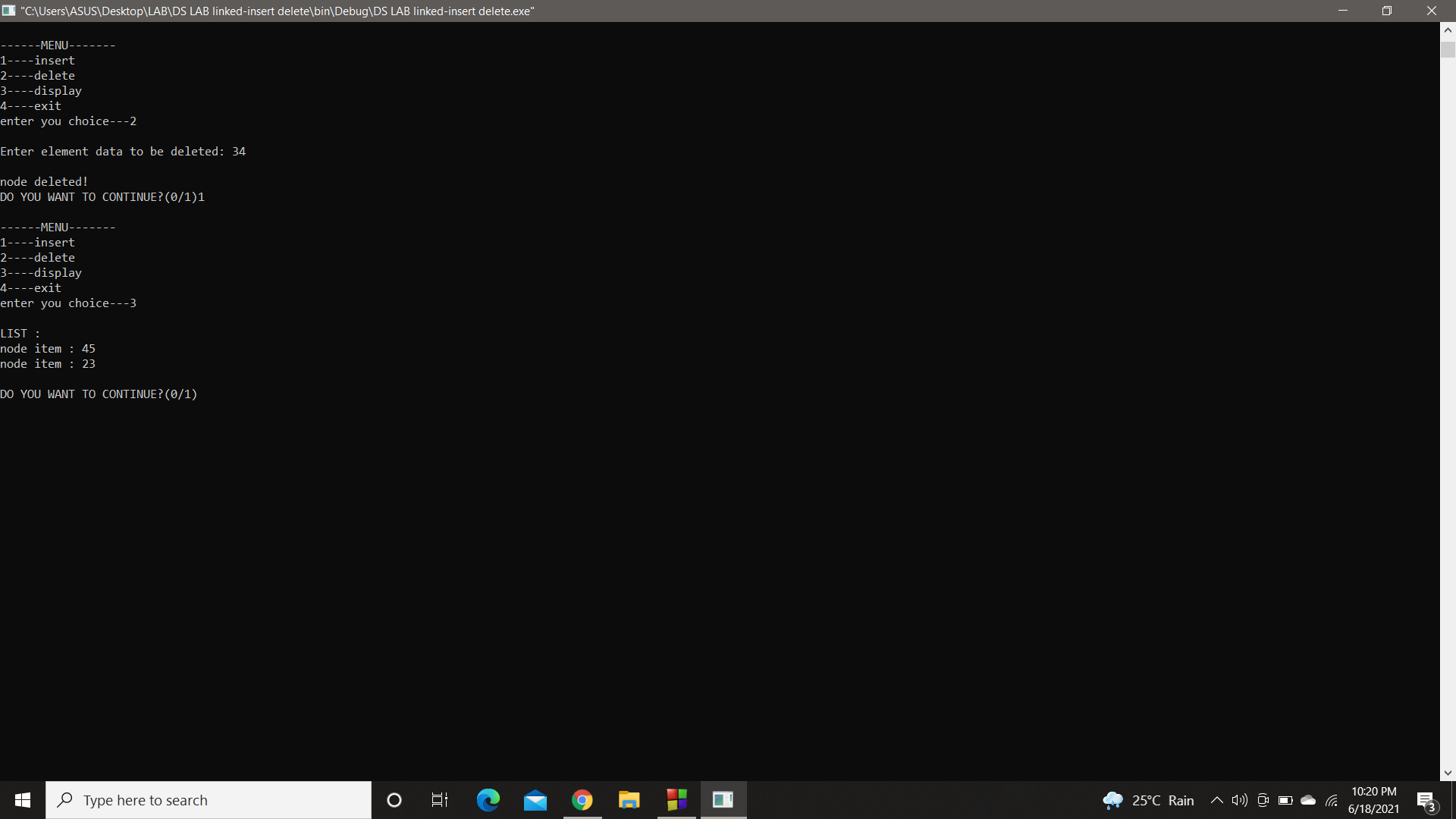
return 0;

}

**(OUTPUT ON NEXT PAGE)**

**OUTPUT:**

****

****