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**ASSIGNMENT**

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**ROLL NO : 12F129 DEPARTMENT : IT**

**SECTION : A**

**SOURCE CODE:**

#include <stdio.h>

#include<conio.h>

#include <stdlib.h>

struct hash \*ht = NULL;

int eCount = 0,ccount=0;

char l[100];

struct node {

int key;

struct node \*next;

};

struct hash {

struct node \*head;

int count;

};

struct node \* createNode(int key)

{

struct node \*newnode;

newnode = (struct node \*)malloc(sizeof(struct node));

newnode->key = key;

newnode->next = NULL;

return newnode;

}

void insert(int key) {

int Index = key % eCount;

struct node \*newnode = createNode(key);

if (!ht[Index].head)

{

ht[Index].head = newnode;

ht[Index].count = 1;

return;

}

newnode->next = (ht[Index].head);

ht[Index].head = newnode;

ht[Index].count++;

return;

}

void display() {

struct node \*myNode;

int i;

for (i = 0; i < eCount; i++) {

if (ht[i].count == 0)

continue;

myNode = ht[i].head;

if (!myNode)

continue;

printf("\n\nData at index %d in Hash Table:\n", i);

printf("key \n");

printf("------\n");

ccount=0;

while (myNode != NULL) {

printf("%-12d", myNode->key);

ccount++;

myNode = myNode->next;

}

printf("\nlenght of chain : %d",ccount);

l[i]=ccount;

}

return;

}

int main() {

int n,x=1, key, ele,i,j,temp;

printf("Enter the number of elements:");

scanf("%d", &n);

eCount = n;

ht = (struct hash \*)calloc(n, sizeof (struct hash));

while (x==1) {

printf("Enter the key value:");

scanf("%d", &key);

insert(key);

scanf("%d",&x);

}

display();

for(i=0;i<strlen(l);i++)

{

for(j=i+1;j<strlen(l);j++)

{

if(l[i]>l[j])

temp=(int)l[i];

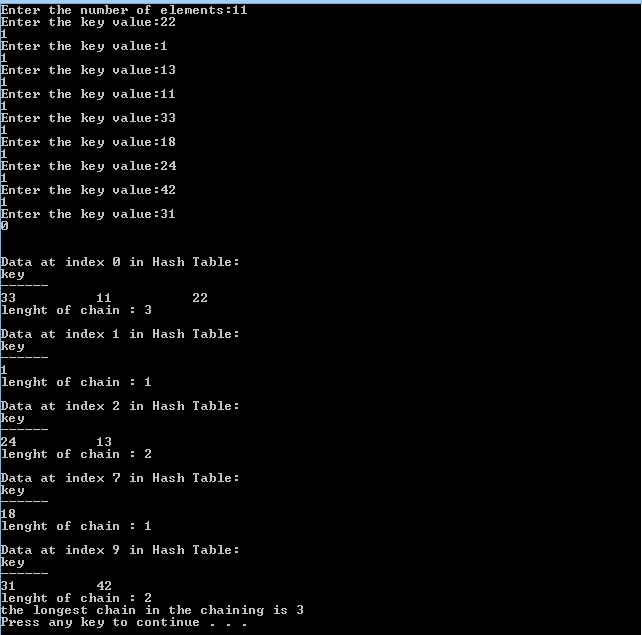
}

}

printf("\nthe longest chain in the chaining is %d\n",temp);

}

**OUTPUT:**

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