

Rajalakshmi Engineering College

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Batch: 2028

Degree: B.E - AI & DS

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NeoColab_REC_CS23231_DATA STRUCTURES

REC_DS using C_Week 7_COD_Question 4

Attempt : 1

Total Mark : 10

Marks Obtained : 10

Section 1 : Coding

1. Problem Statement

Develop a program using hashing to manage a fruit contest where each fruit is assigned a unique name and a corresponding score. The program should allow the organizer to input the number of fruits and their names with scores.

Then, it should enable them to check if a specific fruit, identified by its name, is part of the contest. If the fruit is registered, the program should display its score; otherwise, it should indicate that it is not included in the contest.

Input Format

The first line consists of an integer N, representing the number of fruits in the contest.

The following N lines contain a string K and an integer V, separated by a space, representing the name and score of each fruit in the contest.

The last line consists of a string T, representing the name of the fruit to search for.

Output Format

If T exists in the dictionary, print "Key "T" exists in the dictionary.".

If T does not exist in the dictionary, print "Key "T" does not exist in the dictionary.".

Refer to the sample outputs for the formatting specifications.

Sample Test Case

Input: 2
banana 2
apple 1
Banana

Output: Key "Banana" does not exist in the dictionary.

Answer

```
// You are using GCC
#include<stdio.h>
#include<string.h>
#define MAX 100
typedef struct{
    char name[50];
    int score;
}fruit;
int hash(char *str,int size){
    int hashval=0;
    for(int i=0;str[i]!='\0';i++){
        hashval=(hashval+str[i])%size;
    }
    return hashval;
}
```

```

int main(){
    int n;
    scanf("%d",&n);
    fruit table[MAX];
    for(int i=0;i<MAX;i++){
        strcpy(table[i].name,"");
        table[i].score=-1;
    }
    for(int i=0;i<n;i++){
        char key[50];int value;
        scanf("%s %d",key,&value);
        int index=hash(key,MAX);
        while(strcmp(table[index].name,"")!=0){
            index=(index+1)%MAX;
        }
        strcpy(table[index].name,key);
        table[index].score=value;
    }
    char target[50];
    scanf("%s",target);
    int index=hash(target,MAX);
    int start=index;
    int found=0;
    while(strcmp(table[index].name,"")!=0){
        if(strcmp(table[index].name,target)==0){
            found=1;
            break;
        }
        index=(index+1)%MAX;
        if(index==start) break;
    }
    if(found){
        printf("key \"%s\" exists in the dictionary.\n",target);
    }
    else{
        printf("key \"%s\" does not exist in the dictionary.\n",target);
    }
}

```

Status : Correct

Marks : 10/10