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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 <stdlib.h>
#include <string.h>

#define MAX_KEY_LENGTH 100

typedef struct {
    char key[MAX_KEY_LENGTH];
    int value;
} KeyValuePair;

int keyExists(KeyValuePair* dictionary, int size, const char* key) {
    for (int i = 0; i < size; i++) {
        if (strcmp(dictionary[i].key, key) == 0) {
            return 1;
```

```
        }
    }
    return 0;
}

int main() {
    int n;
    scanf("%d", &n);
    KeyValuePair* dictionary = (KeyValuePair*)malloc(n * sizeof(KeyValuePair));
    for (int i = 0; i < n; i++) {
        scanf("%s %d", dictionary[i].key, &dictionary[i].value);
    }
    char key_to_search[MAX_KEY_LENGTH];
    scanf("%s", key_to_search);
    if (keyExists(dictionary, n, key_to_search)) {
        printf("Key \"%s\" exists in the dictionary.\n", key_to_search);
    } else {
        printf("Key \"%s\" does not exist in the dictionary.\n", key_to_search);
    }
    free(dictionary);
    return 0;
}
```

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