Advanced Data Structures Assignment

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Batch : B1

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Problem Statement:

Implement all the functions of a dictionary (ADT) using hashing. Data: Set of (key, value) pairs, Keys are mapped to values, Keys must be comparable, Keys must be unique Standard Operations: Insert(key, value), Find(key), Delete(key)

Code:

#include "iostream"

#include "map"

using namespace std;

int main() {

map<string,string> m;

map<string,string> :: iterator it;

pair<string,string> p;

int op;

do{

cout<<"1.Enter a Word\n2.Search a Meaning\n3.Delete a Word\n4.Display\n5.Exit\n";

cin>>op;

switch(op) {

case 1: {

cout<<"Enter the Word : ";

cin>>p.first;

it= m.find(p.first);

if(it==m.end()) {

cout<<"Enter the Meaning for this Word : ";

cin>>p.second;

m.insert(p);

}

else cout<<"Word Already Present..!!\n";

break;

}

case 2: {

string word;

cout<<"Enter the Word to be Searched : ";

cin>>word;

it=m.find(word);

if(it!=m.end()) {

cout<<"Word Found !!\nWord : "<<it->first<<"; Meaning : "<<it->second<<";\n";

}

else cout<<"Word not Present\n";

break;

}

case 3 : {

string word;

cout<<"Enter the Word to be Deleted : ";

cin>>word;

it=m.find(word);

if(it!=m.end()) {

m.erase(it);

cout<<"Word Deleted ..!!\n";

}

else cout<<"Word Not Present or Already Deleted ..!!\n";

break;

}

case 4: {

cout<<"Contents of your Dictionary are ---\n";

for(it=m.begin();it!=m.end();it++) {

cout<<"Word : "<<it->first<<"; Meaning : "<<it->second<<";\n";

}

break;

}

default : return 0;

}

}while(1);

return 0;

}

Output:

1.Enter a Word

2.Search a Meaning

3.Delete a Word

4.Display

5.Exit

1

Enter the Word : apple

Enter the Meaning for this Word : fruit

1.Enter a Word

2.Search a Meaning

3.Delete a Word

4.Display

5.Exit

1

Enter the Word : sun

Enter the Meaning for this Word : star

1.Enter a Word

2.Search a Meaning

3.Delete a Word

4.Display

5.Exit

4

Contents of your Dictionary are ---

Word : apple; Meaning : fruit;

Word : sun; Meaning : star;

1.Enter a Word

2.Search a Meaning

3.Delete a Word

4.Display

5.Exit

2

Enter the Word to be Searched : cbvf

Word not Present

1.Enter a Word

2.Search a Meaning

3.Delete a Word

4.Display

5.Exit

3

Enter the Word to be Deleted : sdf

Word Not Present or Already Deleted ..!!

1.Enter a Word

2.Search a Meaning

3.Delete a Word

4.Display

5.Exit

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