# Mahad Ghauri

233523

Data Structures

#include <iostream>;

#include <string>;

using namespace std;

#define TABLE\_SIZE 10

class TableEntry

{

public:

string key;

string value;

TableEntry()

{

key = " ";

value = " ";

}

TableEntry(string k, string v)

{

key = k;

value = v;

}

};

class Table

{

private:

TableEntry table[TABLE\_SIZE];

int size;

public:

Table()

{

size = 0;

}

// Insert a key-value pair

bool insert(string key, string value)

{

if (size >= TABLE\_SIZE)

{

cout << "Table is full!" << endl;

return false;

}

table[size++] = TableEntry(key, value);

return true;

}

// Search for a value by key

string search(string key)

{

for (int i = 0; i < size; ++i)

{

if (table[i].key == key)

{

return table[i].value;

}

}

return "Not Found";

}

void display()

{

for (int i = 0; i < size; ++i)

{

cout << table[i].key << " : " << table[i].value << endl;

}

}

bool deleteEntry(string key)

{

for (int i = 0; i < size; ++i)

{

if (table[i].key == key)

{

table[i].key = "";

table[i].value = "";

cout << "Entry with key '" << key << "' deleted." << endl;

return true;

}

}

cout << "Key '" << key << "' not found." << endl;

return false;

}

};

int main()

{

Table myTable;

myTable.insert("Name", "Mahad");

myTable.insert("Age", "22");

myTable.insert("Country", "Pakistan");

cout << "Value for 'Name': " << myTable.search("Name") << endl;

cout << "Value for 'City': " << myTable.search("City") << endl;

cout << "\nFull Table:" << endl;

myTable.display();

myTable.Delete("Country")

cout << "\nThe table after deleting the entry " << endl;

myTable.display();

return 0;

}

