#include<iostream>

#include<cstring>

//int mod = 1e9+7;

using namespace std;

class Telephone {

unsigned long long key;

int address;

int num;

unsigned long long mobile[10];

string name[10];

public:

Telephone() {

for (int i = 0; i < 10; i++) {

mobile[i] = 0;

}

for (int i = 0; i < 10; i++) {

name[i] = "-";

}

}

void insert\_record() {

cout << "Enter no of records you want to enter :- ";

cin >> num;

cout << endl;

cout << "Which Collision handling technique do you want to use"<< endl << "1. Linear Probing" << endl << "2. Quadratic Probing" << endl;

int flag;

cout << "Enter your Choice :- ";

cin >> flag;

cout << endl;

while (num--) {

cout << "Enter Telephone no :- ";

cin >> key;

cout << endl;

address = hash\_function(key);

if (mobile[address] == 0) {

mobile[address] = key;

cout << "Enter name of the person :- ";

cin >> name[address];

cout << endl;

}

else if (flag == 1) {

hash\_collision\_linear\_probing(mobile, name, key);

}

else if (flag == 2) {

hash\_collision\_quadratic\_probing(mobile, name, key);

}

}

}

void hash\_collision\_linear\_probing(unsigned long long mobile[], string name[], unsigned long long key) {

int adr = hash\_function(key);

while (mobile[(adr % 10)] != 0) {

adr++;

}

mobile[adr % 10] = key;

cout << "Enter name of the person :- ";

cin >> name[adr % 10];

cout << endl;

void hash\_collision\_quadratic\_probing(unsigned long long mobile[], string name[], unsigned long long key) {

int adr = hash\_function(key);

int i = 1;

while (mobile[(adr % 10)] != 0) {

adr += (i \* i);

i++;

}

mobile[adr % 10] = key;

cout << "Enter name of the person :- ";

cin >> name[adr % 10];

cout << endl;

}

void display() {

cout << "Index\tName\tMobile" << endl;

for (int i = 0; i < 10; i++) {

cout << i << "\t" << name[i] << "\t" << mobile[i] << endl;

}

}

int hash\_function(unsigned long long key) {

return key % 10;

}

};

int main() {

Telephone t1;

int choice;

char ch;

do {

cout << "\*Telephone Directory\*" << endl;

cout << "1. Insert record in Directory" << endl;

cout << "2. Display Telephone Directory" << endl;

cout << "3. Exit" << endl;

a

cout << endl << "Enter your choice :- ";

cin >> choice;

cout << endl;

switch (choice) {

case 1:

t1.insert\_record();

break;

case 2:

t1.display();

break;

}

} while (choice < 3);

cout << "Thanks for Using My software" << endl;

return 0;

}





