**#include <iostream>**

**using namespace std;**

**struct Node {**

**int value;**

**Node\* next;**

**};**

**class Hashing {**

**private:**

**Node\* HashTable[10];**

**int HashFunction(int value) {**

**return (value % 10);**

**}**

**public:**

**Hashing() {**

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

**HashTable[i] = nullptr;**

**}**

**void insertElement(int value) {**

**int hash\_val = HashFunction(value);**

**Node\* head = new Node;**

**head->value = value;**

**head->next = nullptr;**

**if (HashTable[hash\_val] == nullptr)**

**HashTable[hash\_val] = head;**

**else {**

**Node\* temp = HashTable[hash\_val];**

**while (temp->next != nullptr)**

**temp = temp->next;**

**temp->next = head;**

**}**

**}**

**void display() {**

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

**cout << "a[" << i << "] : ";**

**Node\* temp = HashTable[i];**

**while (temp != nullptr) {**

**cout << "->" << temp->value;**

**temp = temp->next;**

**}**

**cout << "\n";**

**}**

**}**

**int searchElement(int value) {**

**int hash\_val = HashFunction(value);**

**Node\* entry = HashTable[hash\_val];**

**while (entry != nullptr) {**

**if (entry->value == value) {**

**cout << hash\_val << ":" << entry->value << endl;**

**return hash\_val;**

**}**

**entry = entry->next;**

**}**

**return -1;**

**}**

**void deleteElement(int value) {**

**int hash\_val = HashFunction(value);**

**Node\* entry = HashTable[hash\_val];**

**if (entry == nullptr) {**

**cout << "No Element found";**

**return;**

**}**

**if (entry->value == value) {**

**HashTable[hash\_val] = entry->next;**

**return;**

**}**

**while ((entry->next)->value != value)**

**entry = entry->next;**

**entry->next = (entry->next)->next;**

**}**

**};**

**int main() {**

**int ch, data, search, del;**

**Hashing h;**

**do {**

**cout << "\nTelephone:\n1.Insert\n2.Display\n3.Search\n4.Delete\n5.Exit\n\nOPTION:";**

**cin >> ch;**

**switch (ch) {**

**case 1:**

**cout << "\nEnter phone no. to be inserted:";**

**cin >> data;**

**h.insertElement(data);**

**break;**

**case 2:**

**h.display();**

**break;**

**case 3:**

**cout << "\nEnter the no. to be searched:";**

**cin >> search;**

**if (h.searchElement(search) == -1)**

**cout << "No element found at key";**

**break;**

**case 4:**

**cout << "\nEnter the ph no. to be deleted:";**

**cin >> del;**

**h.deleteElement(del);**

**cout << "Ph no. Deleted" << endl;**

**break;**

**}**

**} while (ch != 5);**

**return 0;**

**}**