#include <iostream> #include <string.h> using namespace std;

struct node

{

int value; node \*next;

} \*HashTable[10];

class hashing

{

public:

hashing()

{

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

{

HashTable[i] = NULL;

}

}

int HashFunction(int value)

{

return (value % 10);

}

node \*create\_node(int x)

{

node \*temp = new node; temp->next = NULL;

temp->value = x; return temp;

}

void display()

{

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

{

node \*temp = new node; temp = HashTable[i]; cout << "a[" << i << "]:"; while (temp != NULL)

{

cout << "->" << temp->value; temp = temp->next;

}

cout << "\n";

}

}

int searchElement(int value)

{

bool flag = false;

int hash\_val = HashFunction(value); node \*entry = HashTable[hash\_val]; cout << "\nElement found at:"; while (entry != NULL)

{

if (entry->value == value)

{

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

flag = true;

}

entry = entry->next;

}

if (!flag) return -1;

}

void deleteElement(int value)

{

int hash\_val = HashFunction(value); node \*entry = HashTable[hash\_val]; if (entry == NULL)

{

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;

}

void insertElement(int value)

{

int hash\_val = HashFunction(value);

node \*temp = new node; node \*head = new node; head = create\_node(value); temp = HashTable[hash\_val]; if (temp == NULL)

{

HashTable[hash\_val] = head;

}

else

{

while (temp->next != NULL)

{

temp = temp->next;

}

temp->next = head;

}

}

};

int main()

{

int ch;

int data, search, del; hashing h;

do

{

cout << "\nTelephone No:\n1.Insert \n2.Display \n3.Search \n4.Delete \n5.Exit \n"; cout << "Enter your choice:";

cin >> ch; switch (ch)

{

case 1:

cout << "\nEnter Telephone no. to be inserted:"; cin >> data;

h.insertElement(data); break;

case 2:

h.display(); break;

case 3:

cout << "\n Enter the no to be searched:"; cin >> search;

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

{

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

}

break;

case 4:

cout << "\nEnter the telephone no. to be deleted:"; cin >> del;

h.deleteElement(del);

cout << "\nTelephone no deleted" << endl; break;

}

} while (ch != 5);

return 0;

}