

```

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

class HashTable
{
    class Entry
    {
    public:
        int key;
        string name;
        Entry *next;

        Entry(int k,const string &s)
        {
            key = k;
            name = s;
            next = nullptr;
        }
    };

public:
    Entry **table;
    int size;

public:
    HashTable(int s=10)
    {
        size =s;
        table = new Entry*[size];

        for (int i=0; i<size;i++)
            table[i] = nullptr;
    }

    int hash (int key)
    {
        int offset = key % size;
        return offset;
    }

    int put(int key,const string &name)
    {
        int offset = hash(key);

        if(table[offset] == nullptr)
        {
            Entry *newEntry = new Entry(key,name);
            table[offset]=newEntry;
            return 0;
        }
    }
};

```

```
}
```

```
for (Entry *curr =table[offset];curr;curr= curr->next)
{
    if(curr->key == key)
    {
        curr->name = name;
    }
    return 0;
}
```

```
Entry *newEntry = new Entry(key,name);
newEntry->next=table[offset];
table[offset]=newEntry;
return 0;
}
```

```
bool get (int key,string &result)
{
    int offset = hash(key);
```

```
    if (nullptr ==table[offset])
        return false;
```

```
    for (Entry *Curr= table[offset]; Curr;Curr = Curr->next)
    {
        if(Curr->key == key)
        {
            result =Curr->name;
            return true;
        }
    }
```

```
    return false;
}
```

```
void print()
{
    for (int offset=0;offset<size;offset++)
    {
        cout<< " " <<offset <<": ";
        for (Entry *curr=table[offset];curr;curr=curr->next)
            cout << "["<<curr->key << "]" << curr->name;

        cout <<endl;
    }
}

};
```

```
int main()
{
    HashTable h1;
    int key;
    string result;

    string name;
    while (cout<<"Enter key(0 to stop) ", cin>>key,key)
    {
        cout<<" enter value ";
        cin >>name;
        h1.put(key,name);
    }

    h1.print ();

    while (cout<<"Enter key to search(0 to stop)", cin>>key,key)
    {
        bool done = h1.get(key,result);
        if(done)
            cout << result<<endl;
        else
            cout<< "no key match" <<endl;
    }
}
```