Problem AB. Maps-STL

OS Linux

Maps are a part of the C++ STL.Maps are associative containers that store elements formed by a combination of a key value and a mapped value, following a specific order.The mainly used member functions of maps are:

- *Map Template:*

```
std::map <key_type, data_type>
```

- *Declaration:*

```
map<string,int>m; //Creates a map m where key_type is of type string and data_type is of type int.
```

- *Size:*

```
int length=m.size(); //Gives the size of the map.
```

- *Insert:*

```
m.insert(make_pair("hello",9)); //Here the pair is inserted into the map where the key is "hello" and the value associated with it is 9.
```

- *Erasing an element:*

```
m.erase(val); //Erases the pair from the map where the key_type is val.
```

- *Finding an element:*

```
map<string,int>::iterator itr=m.find(val); //Gives the iterator to the element val if it is found otherwise returns m.end() .
Ex: map<string,int>::iterator itr=m.find("Maps"); //If Maps is not present as the key value then itr==m.end().
```

- *Accessing the value stored in the key:*

```
To get the value stored of the key "MAPS" we can do m["MAPS"] or we can get the iterator using the find function and then by itr->second we can access the value.
```

To know more about maps click Here.

You are appointed as the assistant to a teacher in a school and she is correcting the answer sheets of the students.Each student can have multiple answer sheets.So the teacher has Q queries:

1 X Y :Add the marks Y to the student whose name is X.

2 X: Erase the marks of the students whose name is X.

3 X: Print the marks of the students whose name is X. (If X didn't get any marks print 0.)

Input Format

The first line of the input contains Q where Q is the number of queries. The next Q lines contain 1 query each.The first integer, $type$ of each query is the type of the query.If query is of type 1, it consists of one string and an integer X and Y where X is the name of the student and Y is the marks of the student.If query is of type 2 or 3,it consists of a single string X where X is the name of the student.

Constraints

$1 \leq Q \leq 10^5$

$1 \leq type \leq 3$

$1 \leq |X| \leq 6$

$1 \leq Y \leq 10^3$

Output Format

For queries of type 3 print the marks of the given student.

Sample Input

```
7
1 Jesse 20
1 Jess 12
1 Jess 18
3 Jess
3 Jesse
2 Jess
3 Jess
```

Sample Output

```
30
20
0
```