Maps-STL ☆

19/44 challenges solved

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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 i
```

- 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 "hell
```

- 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 fou
Ex: map<string,int>::iterator itr=m.find("Maps"); //If Maps is not present as the key value the
```

- 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 tl
```

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
```

Current Buffer (saved locally, editable) C++

```cpp
#include <cmath>
#include <cstdio>
#include <vector>
#include <iostream>
#include <set>
#include <map>
#include <algorithm>
using namespace std;


int main() {
    /* Enter your code here. Read input from STDIN. Print output to STDOUT */

    int Q;
    cin >> Q;
    int type;
    string X;
    int Y;

    std::map<string,int> m;

    while(Q--) {

        cin >> type;

        if(type == 1) {
            cin >> X;
            cin >> Y;

            m[X] += Y;

        }
        else if(type == 2) {
            cin >> X;
            m[X] = 0;
        }
        else if(type == 3) {
            //cin >> Y;
```

```
            //cin >> t;
            cin >> X;
            if(m[X] > 0)
                cout << m[X] << endl;
            else
                cout << "0" << endl;
        }


    }



    return 0;
}
```

Line: 1 Col: 1

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