

Java TreeMap

Implement different operations on TreeMap.

Input:

The first line of input contains an integer **T** denoting the no of test cases. Then T test cases follow. The first line of input contains an integer **Q** denoting the no of queries. Then in the next line are **Q** space separated queries.

A query can be of four types

1. a x y (adds an entry with key x and value y to the TreeMap)
2. b x (print value of x if present in the TreeMap else print -1.)
3. c (prints the size of the TreeMap)
4. d x (removes an entry with key x from the map)
5. e (print map sorted by key)

Output:

The output for each test case will be space separated integers denoting the results of each query.

Constraints:

$1 \leq T \leq 100$

$1 \leq Q \leq 100$

Example (To be used only for expected output):

Input

2

6

a 1 2 a 66 3 b 66 d 1 c e

4

a 1 66 b 5 e c

Output

3 1 66

-1 1 1

Explanation:

For the first test case

There are five queries. Queries are performed in this order

1. a 1 2 --> map has a key 1 with value 2
2. a 66 3 ---> map has a key 66 with value 3
3. b 66 ---> prints the value of key 66 if its present in the map ie 3.
4. d 1 ---> removes an entry from map with key 1
5. c ---> prints the size of the map ie 1
6. e ---> prints the map sorted by key

For the sec test case

There are three queries. Queries are performed in this order

1. a 1 66 ---> adds a key 1 with a value of 66 in the map
2. b 5 ---> since the key 5 is not present in the map hence -1 is printed.
3. c ---> prints the size of the map ie 1
4. e ---> prints the map sorted by key