

Friday, 16 March 2018

# **LAB DEMO 06**

# C++ STL map SHORT demo

set is similar, and actually this is similar to unordered version

- constructor
- insert, operator [], find, count
- range-based for loop to access the keys (in **ordered** fashion)
  - Compare with last week's demo, this is the main key difference
- erase
- empty, size
- <http://en.cppreference.com/w/cpp/container/map>
- MAGIC stuff for PS4 later: `lower_bound`, `upper_bound`

# Case Study: Indexing City Names

Given a list of city pairs in several lines, e.g.

JAKARTA SINGAPORE  
SINGAPORE SHANGHAI  
SHANGHAI TOKYO  
TOKYO SINGAPORE  
TOKYO LOSANGELES



0	1
1	2
2	3
3	1
3	4

Replace these city names into integers from 0 to  $V-1$

- $V$  is the number of distinct city names in the list
  - ( $V = 5$  in the example above)
- The first city name that you see should be given integer 0
- The next different city name is integer 1 and so on
- The same city name should be given **the same index!**

# VisuAlgo Training Mode

Now let's try Hash Table Online Quizzes

Make sure that you understand the explanation in:

Last week's Hash Table stuffs <https://visualgo.net/en/hashtable?slide=1>

You can use VisuAlgo Online Quiz training mode to check your basic understanding about Hash Table on “infinite” number of random questions:

<https://visualgo.net/training?diff=Hard&n=5&tl=5&module=hashtable>

(direct URL problematic now, will debug later; just use main page)

# Mock PE 2

Solve <https://open.kattis.com/problems/compoundwords>

Before this Lab session runs out (xx.45)!!

Start from this template code (share your repl link)

Gradual hints will be added in few minutes interval