

Reading Log Files

Finding Unique IP Addresses

Counting Website Visits

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Counting Website Visits4 questions

Review

# Unique IPs: Another Approach

Cat  
Snake  
T-Rex  
Snake  
Cat

Key	Value
Cat	2
Snake	2
T-Rex	1

- Previous problem: How many unique Strings?

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you may realize that you have solved a larger problem.

HashMap for Unique IPs

Have a question? Discuss this lecture in the week forums.



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0:03

Think back to the problem where you found how many unique IP addresses there were in a web server log. That problem was essentially finding out how many different strings there were.

0:14

If you look at what you just did, finding how many times each string occurred, [you may realize that you have solved a larger problem.](#) The solution to the problem of counting unique Strings is already here. You have each unique String in this HashMap as a key, and would just need a way to turn it into the answer you want. Your counting out rhythm has already done the hard work. You would just need to be able to extract the answer from the HashMap.

0:41

This situation is common in programming. You may write code to solve a more complex problem and then be able to solve a simpler problem easily by using the more complex algorithm to do the hard work. Recognizing such situations can be quite helpful to becoming a highly productive programmer.

1:01

In this case, using the HashMap from the second problem to solve the first problem, is easy. HashMaps have a `.size()` method, which tells how many key value pairs the HashMap has.

1:14

As each key appears once in the HashMap, the result from `.size()` tells you exactly how many unique keys there were in the input.

1:23

If you had written `countVisitsPerIP()` first, you could have written `countUniqueIPs()` with just these two lines of code. The first line uses `countVisitsPerIP()` to solve a larger problem. And the second line uses the `.size()` method in HashMap to turn the answer from that problem in to the answer to this problem. The size of the HashMap is exactly the number of unique keys, which is the answer to this problem. Whenever you are programming, try to think of way to use code that you have already written and tested. Thank You.

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