Java-Success.com

Industrial strength Java/JEE Career Companion to open more doors

search here …   Go

Home   **Java FAQs**   **600+ Java Q&As**   **Career**   **Tutorials**   **Member**   **Why?**

Can u Debug?   Java 8 ready?   Top X   Productivity Tools   Judging Experience?

♦ Find the first non repeated character in a given string input

Posted on December 9, 2014 by Arulkumaran Kumaraswamipillai — 2 Comments ↓

4
Like
Share

Tweet

1
G+1

3
Share

Pseudocode

1) Precodnition check for null or empty input.
2) Loop throught the input string, and store each "character" as a key in a map with the value being the "character count".

For example, an input string of "stress" would have

Key -> **Value**
s -> 3
t -> 1

600+ Full Stack Java/JEE Interview Q&As ♥Free ♦FAQs

open all | close all

⊞ Ice Breaker Interview
⊟ Core Java Interview (
⊞ Java Overview (4)
⊞ Data types (6)
⊞ constructors-metho
⊞ Reserved Key Wor
⊞ Classes (3)
⊞ Objects (8)
⊞ OOP (10)
⊞ GC (2)
⊞ Generics (5)
⊞ FP (8)
⊞ IO (7)
⊞ Multithreading (12)
⊞ Algorithms (5)
⊞ Annotations (2)
⊟ Collection and Data
♦ Find the first n
♦ Java Collection
♥ Java Iterable \
♥♦ HashMap & H

r -> 1

e -> 1

3) Loop through the input string again, and check the character count in the map previously populated, and if the count is 1, then return the character.

Questions to ask?

Experienced Java developers ask questions.

1. Is it case sensitive? Should "Stress" and "stress" to be treated the same way?
2. Throw error or return null when a given string is empty or null?
3. Should this be a good candidate for Java 8 functional programming?
4. Should the map maintain the order of character keys? if yes, use a **LinkedHashMap** .

The following implementation assumes "NOT CASE SENSITIVE"

Java code

```java
1   import  java.util.HashMap;
2   import  java.util.Map;
3
4   public  class  FirstNonRepeatedCharacter  {
5
6     public  static  void  main(String[]  args)  {
7       System.out.println(logic("stress"));    //'t
8       System.out.println(logic("tweet"));     //'w
9     }
10
11    private  static  Character  logic(String  inpu
12
13      if(input  ==  null  ||  input.trim().length(
14        return  null;
15      }
16
17      input = input.toLowerCase(); // Case insensi
18
19      char[]  characters  =  input.toCharArray();
20
21      Map<Character,Integer>  mapChars  =  new  Ha
22
23      //store  characters  and  count
```

16 Technical Key Areas

```
24      for  (char  c  :  characters)  {
25        if(mapChars.containsKey(c))  {   //already
26          mapChars.put(c,  mapChars.get(c)  +  1);
27        }
28        else  {  //  not  already  exist
29          mapChars.put(c,  1);
30        }
31      }
32
33      //find  first  char  in  the  char  array  w
34      for  (char  c  :  characters)  {
35        if(mapChars.get(c)  ==  1)  {   //auto  u
36          return  c;
37        }
38      }
39
40      return  null;
41    }
42
43 }
44
```

Points to note:

1) precondition check is made for null or empty string input

2) **mapChars** is coded to interface and uses Java 8 style generics

3) Autoboxing and unboxing takes place from "char to Character" and "int to Integer".

Get user input interactively

Just the main method has changed. The logic is still the same.

```
1  import   java.util.HashMap;
2  import   java.util.Map;
3  import   java.util.Scanner;
4
5  public  class  FirstNonRepeatedCharacter  {
6
7    public  static  void  main(String[]  args)  {
8      System.out.println("Please enter the input
9      Scanner in  =  new Scanner (System.in);  //r
10     String  input  =  in.nextLine();
11     char  firstNonRepeatedChar  =  logic(input);
12     System.out.println("The first non repeated c
13   }
14
15   private  static  Character  logic(String  inpu
16
17     if(input  ==  null  ||  input.trim().length(
18       return  null;
19     }
20
```

80+ step by step Java Tutorials

100+ Java pre-interview coding tests

```java
21      input = input.toLowerCase(); // Case insensi
22
23      char[]  characters  =  input.toCharArray();
24
25      Map<Character,Integer>  mapChars  =  new  Ha
26
27      //store  characters  and  count
28      for  (char  c  :  characters)  {
29        if(mapChars.containsKey(c))  {  //already
30          mapChars.put(c,  mapChars.get(c)  +  1);
31        }
32        else  {  //  not  already  exist
33          mapChars.put(c,  1);
34        }
35      }
36
37      //find  first  char  in  the  char  array  w
38      for  (char  c  :  characters)  {
39        if(mapChars.get(c)  ==  1)  {     //auto  u
40          return  c;
41        }
42      }
43
44      return  null;
45    }
46
47 }
48
```

Output

```
1 Please enter the input string :
2 cactus
3 The first non repeated character is :   a
4
```

LinkedHashmap to maintain the order of keys

```java
1  import java.util.HashMap;
2  import java.util.LinkedHashMap;
3  import java.util.Map;
4  import java.util.Scanner;
5  import java.util.Set;
6
7  public class FirstNonRepeatedCharacter {
8
9    public static void main(String[] args) {
10     System.out.println(" Please  enter  the  in
11     Scanner in = new Scanner(System.in); // read
12     String input = in.nextLine();
13     char firstNonRepeatedChar = logic(input);
14     System.out.println("The  first  non  repeate
15   }
16
17   private static Character logic(String input) {
18
```

```java
19      if (input == null || input.trim().length() =
20        return null;
21      }
22
23      input = input.toLowerCase();
24
25      char[] characters = input.toCharArray();
26
27      Map<Character, Integer> mapChars = new Linke
28
29      // store characters and count
30      for (char c : characters) {
31        if (mapChars.containsKey(c)) { // already
32          mapChars.put(c, mapChars.get(c) + 1);
33        } else { // not already exist
34          mapChars.put(c, 1);
35        }
36      }
37
38      //now loop through the mapChars
39      Set<Character> characterSet = mapChars.keySe
40      for (Character key : characterSet) {
41        if(mapChars.get(key) == 1){
42          return key;
43        }
44      }
45
46      return null;
47
48    }
49
50  }
51
```

Popular Posts

♦ 11 Spring boot interview questions & answers

823 views

♦ Q11-Q23: Top 50+ Core on Java OOP Interview Questions & Answers

765 views

18 Java scenarios based interview Questions and Answers

399 views

001A: ♦ 7+ Java integration styles & patterns interview questions & answers

388 views

01b: ♦ 13 Spring basics Q8 – Q13 interview questions & answers

295 views

♦ 7 Java debugging interview questions & answers

293 views

01: ♦ 15 Ice breaker questions asked 90% of the time
in Java job interviews with hints

285 views

♦ 10 ERD (Entity-Relationship Diagrams) Interview
Questions and Answers

279 views

♦ Q24-Q36: Top 50+ Core on Java classes, interfaces
and generics interview questions & answers

239 views

001B: ♦ Java architecture & design concepts
interview questions & answers

201 views

Bio	Latest Posts

Arulkumaran Kumaraswamipillai

Mechanical Eng to freelance Java
developer in 3 yrs. Contracting since 2003,
and attended 150+ Java job interviews, and
often got 4 - 7 job offers to choose from. It
pays to prepare. So, published Java
interview Q&A books via Amazon.com in
2005, and sold 35,000+ copies. Books are
outdated and replaced with this subscription
based site.**945+** paid members. join my
LinkedIn Group. **Reviews**

About Arulkumaran Kumaraswamipillai

Mechanical Eng to freelance Java
developer in 3 yrs. Contracting since
2003, and attended 150+ Java job
interviews, and often got 4 - 7 job offers
to choose from. It pays to prepare. So, published Java
interview Q&A books via Amazon.com in 2005, and sold
35,000+ copies. Books are outdated and replaced with
this subscription based site.**945+** paid members. join my
LinkedIn Group. **Reviews**

‹   Java ExecutorService with strategy design pattern to execute

concurrently & sequentially

   Java 8 String streams and finding the first non repeated character with

functional programming   ›

Posted in Can you write code?, Coding, Collection and Data structures,

member-paid

2 comments on "♦ Find the first non repeated character in a given string input"

kumarichenna says:
November 6, 2015 at 3:30 pm

When does this scenario useful in real-time? What is the
need of finding first non-repeatable character?

Reply

Arulkumaran Kumaraswamipillai says:
November 6, 2015 at 4:04 pm

You mean in real-life. This is an exercise to learn
algorithms and coding. The scenario is trivial and not
very likely in real life, but the solution & the questions
you ask before arriving at the solution are very real
life.

1) As explained in the post, you need to think about
the requirements & the edge cases. E.g. is case
sensitive?, is ordering important?, etc
2) You need to code defensively by validating the
input.
3) You need to know what data structure to use and
how to use it.

Reply

Leave a Reply

Logged in as geethika. Log out?

Comment

[Post Comment]

Empowers you to open more doors, and fast-track

Technical Know Hows

☀ Java generics in no time ☀ Top 6 tips to transforming your thinking from OOP to FP ☀ How does a HashMap internally work? What is a hashing function? ☀ 10+ Java String class interview Q&As ☀ Java auto un/boxing benefits & caveats ☀ Top 11 slacknesses that can come back and bite you as an experienced Java developer or architect

Non-Technical Know Hows

☀ 6 Aspects that can motivate you to fast-track your career & go places ☀ Are you reinventing yourself as a Java developer? ☀ 8 tips to safeguard your Java career against offshoring ☀ My top 5 career mistakes

Prepare to succeed

☀ Turn readers of your Java CV go from "Blah blah" to "Wow"? ☀ How to prepare for Java job interviews? ☀ 16 Technical Key Areas ☀ How to choose from multiple Java job offers?

Select Category ▼

© Disclaimer

The contents in this Java-Success are copy righted. The author has the right to correct or enhance the current content without any prior notice.

These are general advice only, and one needs to take his/her own circumstances into consideration. The author will not be held liable for any damages caused or alleged to be caused either directly or indirectly by these materials and resources. Any trademarked names or labels used in this blog remain the property of their respective trademark owners. No guarantees are made regarding the accuracy or usefulness of content, though I do make an effort to be accurate. Links to external sites do not imply endorsement of the linked-to sites.

© 2016   Java-Success.com   ↑   Responsive Theme **powered by** WordPress