### First non-repeating character in a stream

Given an input stream **A**of **n** characters consisting only of lower case alphabets. While reading characters from the stream, you have to tell which character has appeared only once in the stream upto that point. If there are many characters that have appeared only once, you have to tell which one of them was the first one to appear. If there is no such character then append '#' to the answer.

**Example 1:**

**Input:** A = "aabc"

**Output:** "a#bb"

**Explanation:** For every character first non

repeating character is as follow-

"a" - first non-repeating character is 'a'

"aa" - no non-repeating character so '#'

"aab" - first non-repeating character is 'b'

"aabc" - first non-repeating character is 'b'

**Example 2:**

**Input:** A = "zz"

**Output:** "z#"

**Explanation:** For every character first non

repeating character is as follow-

"z" - first non-repeating character is 'z'

"zz" - no non-repeating character so '#'

**Expected Time Complexity:**O(26 \* n)  
**Expected Space Complexity:**O(26)

**Constraints:**  
1 <= n <= 105

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//{ Driver Code Starts

import java.util.\*;

import java.lang.\*;

import java.io.\*;

class CodingMaxima

{

public static void main(String[] args) throws IOException

{

BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

PrintWriter out=new PrintWriter(System.out);

int T = Integer.parseInt(br.readLine().trim());

while(T-->0)

{

String A = br.readLine().trim();

Solution ob = new Solution();

String ans = ob.FirstNonRepeating(A);

out.println(ans);

}

out.close();

}

}

// } Driver Code Ends

class Solution

{

public String FirstNonRepeating(String A)

{

// code here

int n=A.length();

int[] freq=new int[26];

Queue<Character> q=new LinkedList<>();

String s="";

for(int i=0;i<n;i++ ){

q.add(A.charAt(i));

freq[A.charAt(i)-'a']++;

while(q.size()>0 && freq[q.peek()-'a']>=2){

q.remove();

}

if(q.size()==0)

s=s+"#";

else

s=s+q.peek();

}

return s;

}

}