



Ashton and String

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Problem

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Ashton appeared for a job interview and is asked the following question. Arrange all the distinct [substrings](#) of a given string in lexicographical order and concatenate them. Print the K^{th} character of the concatenated string. It is assured that given value of K will be valid i.e. there will be a K^{th} character. Can you help Ashton out with this?

Note We have distinct substrings here, i.e. if string is `aa`, it's distinct substrings are `a` and `aa`.

Input Format

First line will contain a number T i.e. number of test cases.

First line of each test case will contain a string containing characters $(a - z)$ and second line will contain a number K .

Constraints

$$1 \leq T \leq 5$$

$$1 \leq \text{length} \leq 10^5$$

K will be an appropriate integer.

Output Format

Print K^{th} character (the string is 1 indexed)

Sample Input

```
1
dbac
3
```

Sample Output

```
c
```

Explanation

The substrings when arranged in lexicographic order are as follows

```
a, ac, b, ba, bac, c, d, db, dba, dbac
```

On concatenating them, we get

```
aacbbabaccddbdbadbac
```

The third character in this string is `c` and hence the answer.

Submissions: [2301](#)


Max Score: 100

Difficulty: Advanced

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Need Help?

[Suffix Array](#)[LCP Array](#)[More](#)Current Buffer (saved locally, editable)  Java 7 

```
1 import java.io.*;
2 import java.util.*;
3 import java.text.*;
4 import java.math.*;
5 import java.util.regex.*;
6
7 public class Solution {
8
9     public static void main(String[] args) {
10         /* Enter your code here. Read input from STDIN. Print output to STDOUT. Your class should be named Solution. */
11     }
12 }
```

Line: 1 Col: 1

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