

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?

For example, given the string  $s = \text{abc}$ , its distinct substrings are **[a, ab, abc, abcd, b, bc, bcd, c, cd, d]**. Sorted and concatenated, they make the string **aababcabcbdbbcbcdccdd**. If  $K = 5$  then, the answer is **b**, the  $5^{th}$  character of the 1-indexed concatenated string.

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

## Function Description

Complete the *ashtonString* function in the editor below. It should return the  $k^{th}$  character from the concatenated string, 1-based indexing.

ashtonString has the following parameters:

- $s$ : a string
- $k$ : an integer

## Input Format

The first line will contain an integer  $t$ , the number of test cases.

Each of the subsequent  $t$  pairs of lines is as follows:

- The first line of each test case contains a string,  $s$ .
- The second line contains an integer,  $k$ .

## Constraints

$$1 \leq t \leq 5$$

$$1 \leq |s| \leq 10^5$$

Each character of string  $s \in \text{ascii}[a - z]$

$k$  will be an appropriate integer.

## Output Format

Print the  $k^{th}$  character (1-based index) of the concatenation of the ordered distinct substrings of  $s$ .

## 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**.