

Problem D

Jimmy from Dishwashing

Time limit: 3 seconds

Memory limit: 1024 megabytes

Problem Description

Jimmy went to 511 Café to grab a coffee, but when he reached the counter to pay, he realized he forgot his wallet! Luckily, the café owner, Mr. Dong-Hua Lu, is a fan of programming puzzles. He offered Jimmy a chance to earn a free drink – if Jimmy can solve a simple coding challenge, he won’t have to wash the dishes to pay for the coffee.

Here is the challenge: design a program that, given a base- n number in string form, calculates the k ’s complement of that number.

Input Format

Your program is to read from standard input. The input consists of T test cases. The number of test cases T is given in the first line of the input. Each test case consists of two lines. The first line contains two positive integers, N and K , and the second line contains an n -base number string S .

Output Format

Your program is to write to standard output. Print exactly one line for each test case. That line should contain the k ’s complement string of S .

Technical Specification

- $1 \leq T \leq 100$
- $2 \leq N \leq 36$
- $N - 1 \leq k \leq N$
- $0 < |S| \leq 100$

Sample Input 1

```
2
5 4
1234
5 5
1234
```

Sample Output 1

```
3210
3211
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