

## 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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