

# Spot the largest string

Rat Ronnie is very intelligent. Recently she got interested in the binary number system. Seeing this Rat Rocky decided to give her a problem to solve. If she solves it then she gets a big piece of cheese as a prize :).

A binary string of length **N** is a string that contains N characters. Each of these characters is either 0 or 1. Given a binary string S of length **N** and another input integer **L**, find a substring of length **exactly** L whose decimal value is largest amongst all substrings of length L in S. Print this largest value. (See notes and examples for further clarification)

Now Rat Ronnie is unable to think of anything else but cheese. As you are a brilliant programmer, she wants you to solve the problem. She promises to share the piece of cheese if you succeed.

## Notes

- A substring of a string S, is any contiguous sequence of characters in the string. For example, "cde" is a substring of "abcdef" but "ce" is not a substring of "abcdef".
- A value of a binary substring is the value after converting it to a decimal number. For example- Decimal value of "1101" =  $(2^0)*1 + (2^1)*0 + (2^2)*1 + (2^3)*1 = 13$

## Input

The first line is T, the number of test cases.

T test case follows. The first line of every test case contains two integers N and L. The second line of every test case contains a binary string of length N.

$$1 \leq T \leq 100$$

$$1 \leq N \leq 100$$

$$1 \leq L \leq 50$$

$$N \geq L$$

## Output

Output the maximum decimal value of the substring of length L. As the output may be large, use an appropriate data type.

## Example

**Input:**

```
3
7 3
0110111
5 3
10110
4 4
1000
```

**Output:**

7  
6  
8

### **Explanation of Example**

In the second test case, possible substrings of length 3 are "101" , "011", "110" . Out of these, "110" has the highest value in decimal, i.e, 6.