

# SHOPPERS

A group of  $N$  shoppers go to a supermarket. The supermarket has  $M$  items. Each shopper wants to buy only the items he likes. They plan to buy  $K$  items in all. A shopper can buy at max only one item. Some shoppers may not buy anything and some items might not be bought.

## Input

First line contains the number of test cases.

Each test case contains three integers  $N$ ,  $M$  and  $K$  separated by spaces. Then follow  $N$  lines containing  $M$  characters each. If  $j$ th character of  $i$ th line is 1 then  $i$ th shopper likes item  $j$ .

$1 \leq K \leq N, M \leq 13$

## Output

For each test case, output the number of ways  $K$  items in all can be bought.

## Example

### Input:

```
1
4 4 2
1111
0100
0100
1100
```

### Output:

```
14
```