7905 Cherry Pick

Jane is visiting a cherry orchard which consists of N cherry trees. The orchardman tells Jane that she can pick as many cherries as she want and pay at the checkout counter. As Jane buys cherries directly from the orchardman, the price is really cheap: one local currency per cherry! There are M different types of banknotes in her wallet. The denomination of the i-th type is C_i, and there are infinite banknotes for each type.

Jane randomly picks cherries from cherry trees. For each tree, she either picks one cherry from it or skip that tree. She picks a cherry from each cherry tree with probability $P\%$. The picking choice on each cherry tree is independent.

To make business smooth, the orchardman never gives changes. Jane always pays the minimal amount of money for the cherries she picks. For example, suppose that Jane only has one type of banknote with denomination of 10, she will pay 10 local currency for 9 cherries, 10 local currency for 10 cherries, and 20 local currency for 11 cherries.

Being a shrewd girl, she wonders how much extra money will be paid because the orcardman never gives changes. In the above example, she will pay extra 1 local currency when picking 9 cherries; no extra money will be paid when picking 10 cherries; and extra 9 local currency when picking 11 cherries.

She turns to you, the loyal and clever steward, to calculate the expectation of the extra money she will pay. It can be proved that the expectation multiplies 100^N is always an integer. To make life easier, you are only required to calcuate the expectation multiplies 100^N and then $\bmod 10^9 + 7$.

Input

The first line of the input gives the number of test cases, T. T test cases follow. Each test case starts with three integers N, M and P, indicating the number of cherry trees in the orchard, the number of different types of banknotes in Janes wallet, and the probabily that Jane picks a cherry from each cherry tree. The following line contains M integers $C_1, C_2, \cdots, C_M$, describing the denomination of each type of banknotes.

Output

For each test case, output one line containing '`Case #`x`:` y', where x is the test case number (starting from 1) and y is the result.

Limits:

- $1 \le T \le 20$.
- $1 \le N \le 10^9$.
- $1 \le M \le 100$.
- $0 \le P \le 100$.
- $1 \le C_i \le 10000$.
- $1 \le C_i \times C_j \le 10000$, for all $i \ne j$.
- all C_i are distinct.
- For 25% of the test cases, $M = 1$ holds.

Sample Input

```
3
2 1 50
3
2 3 100
3 4 5
2 2 50
1 3
```

Sample Output

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Case #1: 12500
Case #2: 10000
Case #3: 0
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