B. The Peak Hour

Program:	`peak.(cpp|java)`
Input:	`peak.in`
Balloon Color:	`orange`

Description

Server sizing is an important factor when companies are purchasing hardware or allocating resources on a virtual hypervisor for specific services. In this problem, we will look at sizing for email gateway servers. Some of the factors that are considered are average email size, email throughput, and the number of mailboxes or users. In many cases, the major factor is email throughput, and it is usually measured by the peak hour (the maximum number of emails processed in an hour).

When administrators try to get an estimate of the peak email throughput, they usually generate reports from their mail systems and look at the maximum number of emails counted from the tip of an hour to the next (for instance, the peak hour could be from 1PM to 2PM). Estimating the peak hour with this method does not produce accurate measurements. For example, the peak hour could be from 1:48PM to 2:48PM. Administrators do not consider this as they are only looking at hourly data from the tip of an hour to the next.

In this problem, you are given the number of emails N, the time frame T which represents the frame of time in minutes, where we are looking for the peak mail throughput (e.g if T=60, then we are looking for the peak hour), and the times emails are processed (in minutes). Your task is to calculate the peak throughput over all the possible time frames of length T.

Input Format

The input starts with a number C ($1 \le C \le 100$) that represents the number of test cases in the file. Each test case starts with a line that contains two integers, N ($1 \le N \le 10^6$), and T ($1 \le T \le 10^9$), as described above. N lines follow with each containing an integer N_i ($1 \le N_i \le 10^9$) representing the time an email is processed in minutes. Multiple emails can be processed in the same minute.

Output Format

The output for each test case is in this form:

```
k. ans
```

where ***k*** represents the test case number (starting at 1), and ***ans*** is the peak throughput.

Sample Input / Output

peak.in

```
2
3 2
1
2
3
5 3
1
2
5
4
6
```

OUTPUT

```
1. 2
2. 3
```