Vaccine Distribution

Problem Code: **VACCINE2**

Submit

Tweet

My Submissions | All Submissions

Successful Submissions +

Read problem statements in Hindi, Bengali, Mandarin Chinese, Russian, and Vietnamese as well.

Finally, a COVID vaccine is out on the market and the Chefland government has asked you to form a plan to distribute it to the public as soon as possible. There are a total of N people with ages $a_1, a_2, \ldots, a_N$.

There is only one hospital where vaccination is done and it is only possible to vaccinate up to D people per day. Anyone whose age is ≥ 80 or ≤ 9 is considered to be *at risk*. On each day, you may not vaccinate both a person who is at risk and a person who is not at risk. Find the smallest number of days needed to vaccinate everyone.

Input

- The first line of the input contains a single integer T denoting the number of test cases. The description of T test cases follows.
- The first line of each test case contains two space-separated integers N and D.
- The second line contains N space-separated integers $a_1, a_2, \ldots, a_N$.

Output

For each test case, print a single line containing one integer — the smallest required number of days.

Constraints

- $1 \leq T \leq 10$
- $1 \leq N \leq 10^4$
- $1 \leq D \leq 10^5$
- $1 \leq a_i \leq 100$ for each valid i

Subtasks

Subtask #1 (100 points): original constraints

Example Input

```
2
10 1
10 20 30 40 50 60 90 80 100 1
5 2
9 80 27 72 79
```

Example Output

```
10
3
```

Explanation

Example case 1: We do not need to worry about how the people are grouped, since only one person can be vaccinated in a single day. We require as many days as there are people.

Example case 2: There are two people at risk and three people who are not at risk. One optimal strategy is to vaccinate the two people at risk on day 1 and the remaining three on the next 2 days.

Author:	daanish_adm
Date Added:	3-12-2020
Time Limit:	1 secs
Source Limit:	50000 Bytes
Languages:	CPP14, C, JAVA, PYTH 3.6, PYTH, CS2, ADA, PYPY, PYP3, TEXT, CPP17, PAS fpc, RUBY, PHP, NODEJS, GO, TCL, HASK, PERL, SCALA, kotlin, BASH, JS, PAS gpc, BF, LISP sbcl, CLOJ, LUA, D, R, CAML, rust, ASM, FORT, FS, LISP clisp, SQL, swift, SCM guile, PERL6, CLPS, WSPC, ERL, ICK, NICE, PRLG, ICON, PIKE, COB, SCM chicken, SCM qobi, ST, NEM, SQLQ

Submit

Comments