note @87 154 views

PA2 - 2002 Discussion Thread

Dancing Party Night

Description

Now you are hosting a dancing party and you have invited a lot of your friends. However, your friends are not familiar with each other so you design a novel method to help them make friends. You assign distinct positive integers to each of your friends and these integers form a sequence s.

You propose a new concept: '**harmonious group**' and define a subsequence $s_i, s_{i+1}, ..., s_j$ to be a harmonious group if and only if you can find an integer $t \geq 2$ which satisfies $s_i \bmod t = s_{i+1} \bmod t = ... = s_j \bmod t$, where $u \bmod v$ equals to the remainder when u is divided by v.

You need to figure out the size of the largest harmonious group in s.

Input

- In this task, you are given multiple sub-testcases in each testcase. The first line contains a single integer T $(1 \leq T \leq 2e3)$, denoting the number of sub-testcases.
- There are 2 lines for each sub-testcase:
  - One line contains an integer n $(1 \leq n \leq 2e3)$, which is the length of the sequence s in this sub-testcase.
  - The next line contains n positive integers $s_1, s_2, ..., s_n$ $(1 \leq s_i \leq 1e5)$, which is the sequence s. It is guaranteed that all the numbers in s are distinct.

Output

Your output should consist of T lines. Each line should consist of a single integer, which is the size of the largest harmonious group in sequence s.

programming

Updated 1 month ago by Yining She (佘以宁)

followup discussions *for lingering questions and comments*

Resolved Unresolved

王鹏程 1 month ago
Some of the dataset contain equal numbers in s_i, please fix it.

helpful! | 0

张龙文 1 month ago Thanks for your feedback. The constraint is removed.

good comment | 0

Resolved Unresolved

龚可 1 month ago
I suggest setting the time limit a little bit larger, e.g. 1.5 seconds or 2 seconds, since this problem requires reading up to 2000 * 2000 integers within 100000 in extreme cases. Such scale of input would make `std::cin`, which is the input method that most students use, take as long as 0.6 seconds time simply to read the data (without disabling the synchronization with stdio).

helpful! | 0

张龙文 1 month ago Learning how to read data efficiently is part of homework.

good comment | 0