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Problems / classical / Ambitious Manager

AMBM - Ambitious Manager

no tags

The Bogus Corporation distributes salary to its employees in a weird manner. The salary is distributed every K days, and instead of same salary for each day, the salary for the ith day is a_i. An ambitious young manager, fresh from Institute of Mismanagement, observes that people usually prefer to take leave towards the end of this period of K days, when the workload is higher. Instead of revising each of the ai's, the manager comes up with a quick fix solution - he redefines the new salary on the ith day as $b_i = a_i + 2a_{i-1} + 2^2a_{i-2} + 2^3a_{i-3} + ... + 2^{i-1}a_1$. Baba, one of the employees, is in a dire financial crisis, and must accumulate at least N rupees at the end of the forthcoming period. Being a lazy worker that he is, he is interested in finding out if attending particular days would guarantee him exactly N rupees at the end of the period. Can you help Baba?

Input

First line contains a single integer integer \mathbf{T} , the number of test cases (1 \leq T \leq 100). Each test case is described on two lines. First line contains two integers, N and K ($1 \le N \le 2^{63}$ -1, $1 \le K \le 50$), the second line contains a space separated list of K integers, the \mathbf{a}_i 's (1 \leq $a_i \leq$ 1000).

Output

For each test case, output on a single line 1-based indices of the days (separated by a single space) he should attend to ensure a salary of exactly N rupees at the end of the period. The indices should be printed in the sorted order. In case of multiple answers, output any one of them. If there is no answer, print -1.

Example



Submit solution!

✓ Submit solution! Added by: Rahul Garg 2007-07-04 Date: Time limit: 1s Source limit: 50000B Memory limit: 1536MB Cube (Intel G860) Cluster: All except: ERL JS-RHINO Languages: NODEJS PERL6 VB.NET C-maphore, Tryst 2007 Resource: Evaluate this problem Nobody has rated this problem yet, maybe you'll be the first? Concept difficulty easy normal hard extreme Implementation difficulty easy normal hard extreme Recommend! Own tags No tags Add Tag name

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shivansh_19: 2020-05-27 16:41:48 Easy peasy.....;)



aeon: 2017-01-28 16:57:23

nice question.

just read the output instruction, not the question statement both are contradictory. question statement: must accumulate at least N rupees at the end of the forthcoming period output statement: ensure a salary of exactly N rupees at the end of the period

Last edit: 2017-01-28 17:02:35



Akash Garg: 2016-05-27 18:34:11

stare at it till it confesses its solution:P

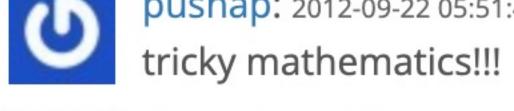


Anish Kumar: 2015-06-07 20:09:28 All you need is a little Maths:)





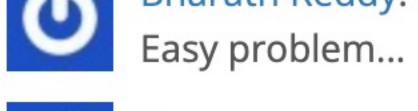
P_Quantum: 2013-08-27 22:34:35
Nice prblm..:)



pushap: 2012-09-22 05:51:42



Bharath Reddy: 2012-08-06 03:49:51





:): 2012-07-23 13:59:52

shouldnt it be 1?

day 1- 1

plz explain 1st case

day 2- 3 day 4- 4

so total=8<9

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