

Bank Accounts



Problem Submissions Leaderboard Discussions

You are going to receive n payments in the upcoming month. The payments are numbered from 0 to n-1 and p_i denotes the amount of money in dollars that will be paid in connection with the i-th payment. Before receiving the payments, you have two banking options to consider:

- 1. You can receive all the payments on your current bank account remembering that the bank charges you for each payment $i \max(k, x\% \text{ of } p_i)$, where k and x are given.
- 2. You can pay the bank d dollars upfront to open a new special account for which the bank doesn't charge you for any of the upcoming transactions.

Your task is to decide which of the above two options is more profitable to you. If both ways are equally profitable, then you prefer to be charged for each transaction.

Input Format

Constraints

- $1 \le q \le 5$
- $1 \le n \le 100$
- $1 \le p_i \le 10^3$
- $1 \le k \le 10^3$
- $1 \le x \le 100$
- $1 \le d \le 10^5$

Output Format

Print exactly **q** lines. In the **i**-th of them, print the answer to the **i**-th scenario. More specifically, print fee if it's more profitable to use the current account and let the bank charge for each transaction, or print upfront if it's better to pay the bank up front for opening the new special account.

Sample Input 0

Sample Output 0

upfront fee fee

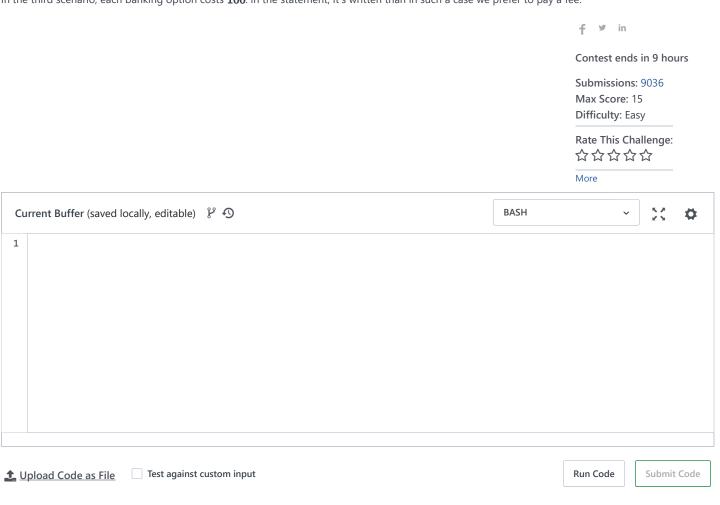
Explanation 0

There are **3** scenarios in the sample.

In the first one, there are 3 payments with amounts: 100, 200, 300. In the first option, for each transaction with amount p_i , the bank charges $\max(20, 10\% \text{ of } p_i)$. In the second option, you can pay upfront 60. It turns out that it's better to choose the second option, i.e. pay up front, because in the first option the bank would charge 70 across all the payments.

In the second scenario, it's better to be charged for each transaction because the bank will charge **112.5** across all payments, which is strictly less than the cost of paying upfront.

In the third scenario, each banking option costs 100. In the statement, it's written than in such a case we prefer to pay a fee.



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