note @88 157 views

PA2 - 2003 Discussion Thread

Feed the Pigeons

Description

There are c pigeons in the plaza, pigeon i has a degree of hunger a_i, and the amount of food it needs b_i. Every time Gezi Wang goes to the plaza, he brings some food with him to feed the hungry pigeons. Since the food is limited, he may not satisfy all the pigeons, thus Gezi Wang decides to choose only some pigeons, say n of them, to feed. In addition, Gezi Wang wants to help those most in need, so he wants the median degree of hunger of those n pigeons to be as large as possible. But of course, the sum of all the food those pigeons Gezi Wang feeds should not exceed the amount of the food he brings, which is f.

Input

- There are 3 integers on the first line, they are the number of the pigeons Gezi Wang decides to feed n, the total number of all pigeons c, and the amount of food Gezi Wang brings with him f.
- For the following c lines, every line contains 2 integers, a_i and b_i. The first integer a_i represents the degree of hunger of the i_{th} pigeon, and the second integer b_i represents the amount of food it needs.

For all test cases,

$3 \leq n \leq 10^5$, $n \leq c \leq 2 \times 10^5$

$0 \leq f \leq 2 \times 10^9$

$0 \leq a_i \leq 2 \times 10^9$, $0 \leq b_i \leq 10^5$

and n is an odd number.

Output

Output the largest median degree of hunger of those n pigeons to feed. If there is no way to meet all the requirements, output -1.

programming

Updated 1 month ago by Yining She (佘以宁)

followup discussions *for lingering questions and comments*