

B. Lorry

time limit per test: 2 seconds

memory limit per test: 64 megabytes

A group of tourists is going to kayak and catamaran tour. A rented lorry has arrived to the boat depot to take kayaks and catamarans to the point of departure. It's known that all kayaks are of the same size (and each of them occupies the space of 1 cubic metre), and all catamarans are of the same size, but two times bigger than kayaks (and occupy the space of 2 cubic metres).

Each waterborne vehicle has a particular carrying capacity, and it should be noted that waterborne vehicles that look the same can have different carrying capacities. Knowing the truck body volume and the list of waterborne vehicles in the boat depot (for each one its type and carrying capacity are known), find out such set of vehicles that can be taken in the lorry, and that has the maximum total carrying capacity. The truck body volume of the lorry can be used effectively, that is to say you can always put into the lorry a waterborne vehicle that occupies the space not exceeding the free space left in the truck body.

Input

The first line contains a pair of integer numbers n and v ($1 \leq n \leq 10^5$; $1 \leq v \leq 10^9$), where n is the number of waterborne vehicles in the boat depot, and v is the truck body volume of the lorry in cubic metres. The following n lines contain the information about the waterborne vehicles, that is a pair of numbers t_i, p_i ($1 \leq t_i \leq 2$; $1 \leq p_i \leq 10^4$), where t_i is the vehicle type (1 – a kayak, 2 – a catamaran), and p_i is its carrying capacity. The waterborne vehicles are enumerated in order of their appearance in the input file.

Output

In the first line print the maximum possible carrying capacity of the set. In the second line print a string consisting of the numbers of the vehicles that make the optimal set. If the answer is not unique, print any of them.

Examples

input	Copy
<pre>3 2 1 2 2 7 1 3</pre>	
output	Copy
<pre>7 2</pre>	

→ Attention

The package for this problem was not updated by the problem writer or Codeforces administration after we've upgraded the judging servers. To adjust the time limit constraint, a solution execution time will be multiplied by 2. For example, if your solution works for 400 ms on judging servers, then the value 800 ms will be displayed and used to determine the verdict.

Codeforces Beta Round 3

Finished

Practice



→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

→ Clone Contest to Mashup

You can clone this contest to a mashup.

Clone Contest

→ Submit?

Language:
GNU G++23 14.2 (64 bit, ms)

Choose file:
Choose File
No file chosen

Submit

→ Last submissions




Submission	Time	Verdict
322950359	Jun/05/2025 10:17	Accepted

→ Problem tags

greedy
sortings
*1900

No tag edit access

→ Contest materials

- [Codeforces Beta Round #3](#) 
- [Tutorial #1 \(en\)](#) 
- [Tutorial #2 \(ru\)](#) 

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