



U S U S U S U



Glowy:

Do you smell that? It almost ... *sniff* ... it almost smells like cinnamon and ... ginger?

gasp it's almost Christmas! and I have just the joke

"A Christmas sweater I bought was picking up static electricity. So, I returned it to the store. They gave me another one free of charge."

**Glowy:**

But seriously now, do you know how hard it is to find quality clothes right now? It's like everyone wants to just take your money for things which break down the minute you put them on and of course you can't prove that so they don't accept returns and then you end up buying more stuff and filling in your bottomless drawer just in case things decide to suddenly break! They call it fast fashion, I call it a rip-off of both time and money but hey who am I to complain, I'm just a light bulb, right? who cares about the opinion of a light bulb these d ...

Oh, wait, my contract says I can't rant like this ...

**Glowy:**

So I apologize for that, my agent said I have to say this ... No more rants. Carry on ...

**Additional info**

The power drawn from tasks cannot exceed a given threshold for each minute

**Task for Level 4:**

complete all tasks while keeping the electricity bill below a certain threshold



- › You are given a threshold of power that cannot be exceeded at any minute.
- › Tasks can be interrupted and split among multiple minutes.
- › Tasks don't have to run at consecutive minutes.
- › The electricity bill is calculated by the power that is drawn each minute by all tasks combined multiplied with the price at that minute, summed up for all minutes.

$$\sum_{i=0}^{n-1} price_i * power_i$$

- › The electricity bill cannot exceed a certain threshold.
- › The solution does not have to be optimal, every solution that fulfills all constraints is valid.

	Input	Output
Format	<code>maxPower</code> <code>maxElectricityBill</code> <code>N</code> <code>price</code> (repeats <code>N</code> times) <code>M</code> <code>taskId power startInterval endInterval</code> (repeats <code>M</code> times)	<code>M</code> <code>taskId minuteId power minuteId2 power2 ...</code> (repeats <code>N</code> times) For each task, find the cheapest minute to draw enough power to finish the task. There can be multiple tuples of <code>minuteIds</code> and <code>power</code> because one task can draw power at multiple minutes. The sum of power drawn still has to be equal for the needed power of the given task.
Types	<code>maxPower</code> (int) maximum power that can be drawn at any given minute by all tasks combined <code>maxElectricityBill</code> (long) maximum electricity bill <code>N</code> (int) number of minutes that follow <code>price</code> (int) price of power at that minute <code>M</code> (int) Number of tasks that follow <code>taskId</code> (int) id of the task starting at 1 <code>power</code> (int) the amount of power the task has to draw to be completed <code>startInterval</code> (int) the id of the first minute that power can be drawn for this task <code>endInterval</code> (int) the id of the last minute that power can be drawn for this task	<code>M</code> (int) Number of tasks that follow <code>taskId</code> (int) id of the task <code>minuteId</code> (int) id of the minute the task is drawing power <code>power</code> (int) amount of power that is drawn for the given minute

	Input	Output
Example	5 100000 10 7428 9824 6914 9473 7666 4950 2248 3305 6439 6393 5 1 6 2 9 2 1 5 9 3 5 2 9 4 1 7 8 5 4 2 9	5 1 6 5 9 1 2 5 1 3 7 4 9 1 4 7 1 5 5 4

The electricity bill for the example solution would be 65301

For each task every minuteId can only be used once.
1 6 5 9 1 is valid while
1 6 4 6 1 9 1 would not be because minuteId 6 is used twice



SMARTGRID

GOOD LUCK