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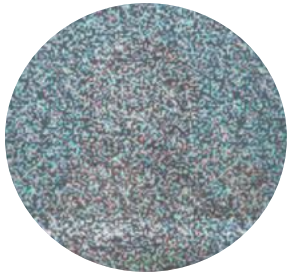
LEVEL 7

Glowy:

Na-ha! I can finally complete what I initially intended to tell you.

So there's this "smart" neighborhood we're planning to manage. Many houses, same place, plenty of families willing to cut down on their electricity price. And I mean, why not. Why pay corporate, greedy a****les too much for a thing so essential and cheap? It's not like they don't swim in money already! But nooo, profit margins, right? That's all that matters nowadays. I mean, look around! The rich get richer while the p ...



Glowy:

Glowy:

Huh ... who would have guessed? They're listening in to everything I say. And they made sure to reroute me a bit as well. Hopefully they didn't touch my humor settings.

But hey, at least I finally managed to get rid of that nasty electrical charge I've been carrying.

I'm ex-static!

Glowy:

Last round, kid.

Additional info

Your program now has to schedule tasks for multiple households

Task for Level 7:

keep the electricity bill for the city below a certain threshold while fulfilling all constraints of the previous levels

- Each household has separate tasks that need to be fulfilled.
- The maximum power and tasks cannot be exceeded by any house.
- The maximum electricity bill is calculated for all houses together
- Power price per minute is increased for all houses when one task is using it.
- Basis for the percentage increase of the price is still the maximum power that can be drawn by one house, so it is possible that the price increase is higher than 100%.
- The solution does not have to be optimal, every solution that fulfills all constraints is valid.

	Input	Output
Format	maxPower maxElectricityBill maxConcurrentTasks N price (repeats N times) H M taskId power startInterval endInterval (repeats M times) (repeats H times)	H houseId M taskId minuteId power minuteId2 power2 ... (repeats N times) (repeats H times) householdIds start at 1
Types	maxPower (int) maximum power that can be drawn at any given minute by all tasks combined maxElectricityBill (long) maximum electricity bill maxConcurrentTasks (int) maximum tasks that can draw power at the same time N (int) number of minutes that follow price (int) price of power at that minute **H (int) number of households that follow** M (int) number of tasks that follow for that household taskId (int) id of the task starting at 1 power (int) the amount of power the task has to draw to be completed startInterval (int) the id of the first minute that power can be drawn for this task endInterval (int) the id of the last minute that power can be drawn for this task	**H (int) number of households that follow** **houseId (int) id of the household** M (int) number of tasks that follow taskId (int) id of the task minuteId (int) id of the minute the task is drawing power power (int) amount of power that is drawn

	Input	Output
Example	10 500000 3 20 6618 9119 9865 8182 7523 6877 7141 6647 7705 6636 7333 4994 4771 3991 2811 3205 2448 4377 3427 5607 2 5 1 1 6 9 2 2 8 19 3 2 7 16 4 7 6 13 5 3 14 18 5 1 10 1 19 2 2 15 17 3 4 11 18 4 3 9 17 5 1 17 17	2 1 5 1 9 1 2 14 1 18 1 3 15 1 16 1 4 13 3 12 2 11 2 5 16 2 14 1 2 5 1 14 4 15 2 18 3 12 1 2 16 2 3 16 3 13 1 4 15 1 16 1 13 1 5 17 1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SMARTGRID
GOOD LUCK