Lab 5

Lab5 OJ link

- https://lms.sustech.cloud/assignment/82

Lab5 has been released on the new OJ, you can sign in the new OJ using your account and password from the old OJ.

Lab5 A: Game

- Bob is a second-year student in SUSTech who wants to buy M games online to spend his holiday. Initially, he had N units money.
- The good news is that all the games he wants are on special sales promotion, in which the price of each game will decrease K units day by day as long as the price can maintain a **positive** price value. (If the price is 9, each day decreases 10, then the price should maintain at 9).
- The price of each game decreases on the morning of each day **except** the first day.
- Also, Bob adds his income of I to his wallet from his dear parents on the evening of each day including the first day.
- The task is to help Bob determine the minimum days to get all the games and the state (morning or evening).

Sample Input

4 1 6 2
3 2 4 2 6 5

4 N: original Deposit **1** I : income per day
6 M: games number **2** K :decrease units per day

	Income	Deposit	Game1	Game2	Game3	Game4	Game5	Game6	Deposit
Day 1-M		$ 4	3	-2->√	4	-2->√	6	5	$ 0
Day 1-E	+1	$ 1	3	√	4	√	6	5	$ 1
Day 2-M		$ 1	-1->√	√	2	√	4	3	$ 0
Day 2-E	+1	$ 1	√	√	2	√	4	3	$ 1
Day 3-M		$ 1	√	√	2	√	2	-1->√	$ 0
Day 3-E	+1	$ 1							$ 1
Day 4-M									
Day 4-E	+1	$ 2	√	√	-2-> √	√	2	√	$ 0
Day 5-M									
Day 5-E	+1	$ 1							$ 1
Day 6-M									
Day 6-E	+1	$ 2	√	√	√	√	-2-> √	√	$ 0

Lab5.B: Elevator

- TB-X is a wonderful teaching building in SUSTech.
- TB-X has k floors. Today, there are n people going to take the elevator.
- The i-th person wants to go from a_i-th floor to b_i-th floor. The elevator has a capacity of m people. It starts from the first floor. The elevator takes 1 unit of time to go up or down one floor. The time people enter and exit the elevator can be ignored.
- The elevator could not change its direction arbitrarily. When the elevator is going down, it can change its running direction if and only if it reaches the first floor.
- The task is to find out the minimum time to carry all people to their destination and let the elevator back to the first floor.

Sample Input

5 2 6

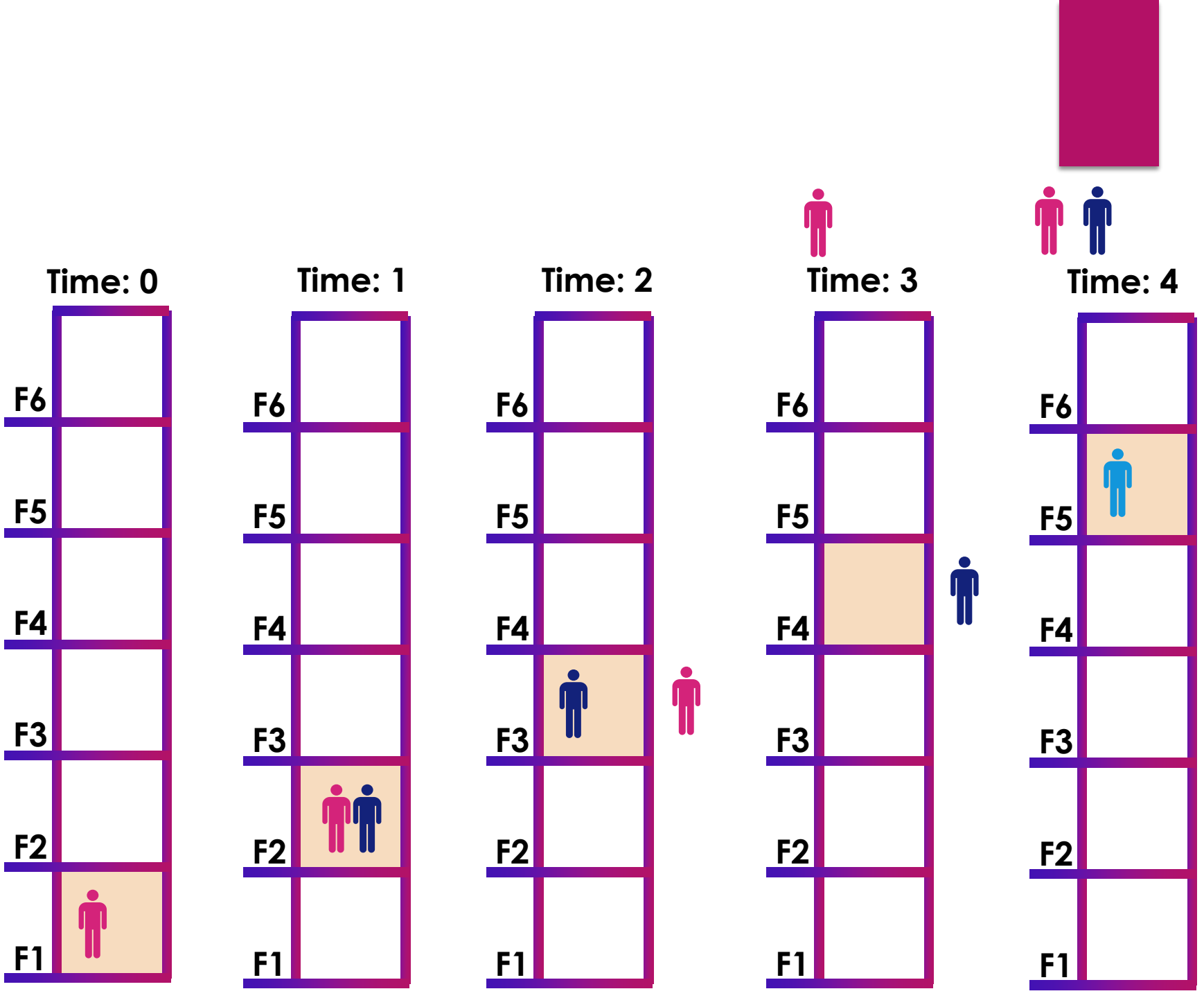
1 3

2 4

5 6

5 4

4 2



Sample Input

5 2 6

1 3

2 4

5 6

5 4

4 2