Goal: Play the game! Move the blocks so that the red one reaches the exit door.

The game is solved when no other block is between the red bar (with id = 0) and the exit door. The exit door is always on the right side of the game in the row of the red bar.

Input: InitialGameSetup

Output: list of moves as

listSize { id steps}

listSize ... number of moves

id ... id of the block being moved

steps ... the number of steps that the specified block shall be moved (in positive / negative direction)

Note: there might be many ways to the goal – you only need to find one way.

Example:

Input: 6 5 3 0 h 2 3 3 1 h 2 5 5 2 v 6 2 2

Output: 2 -1