Coding Area

Snake And Ladder

Problem Description

Snake and Ladder is a board game consisting of snakes and ladders, where the player must reach End position, starting from Start position. Here, a snake on the board demotes the player to a lower numbered square and a ladder promotes the player to a higher numbered square on the board.

For e.g., given below is the snake and ladder board, where S('pos') represents snake and 'pos' indicates where the player's coin will move down to once the player lands on that square. Similarly, L('pos') indicates ladder and 'pos' indicates where the player's coin will move up to once the player lands on that square. Player always starts from the *Start* square and must go towards *End* based on the rolls of the die.

You are supposed to find if it is possible for a player to reach the *End* or not, based on the die inputs. If it is possible, display 'Possible' with number of snakes and ladders encountered during his/her play, else display 'Not possible' along with number of snakes, number of ladders and the square where the player's coin has ended at.

Note: A player can reach the end if he has the exact number on die input to reach end.

For e.g., if the player is at 99, he/she can reach end only if the die input is 1 and no other input. So, he/she must wait till the input on the die is 1.

The actual Snake and Ladder board will look as depicted below. This format will be used for providing inputs.

End 99 S(2) 97 96 95 94 93 92 91

81 82 83 84 85 86 87 88 89 90

80 79 78 77 76 L(99) 74 73 72 71

61 62 S(22) 64 65 66 67 68 69 70

60 59 58 57 56 55 54 53 52 51

41 42 43 44 L(68) 46 47 48 49 50

40 39 S(6) 37 36 35 34 33 32 31

21 22 23 24 25 26 27 28 29 30

20 19 18 17 S(9) 15 14 13 12 11

Start 2 3 4 5 6 7 8 9 10

Constraints

1 <= die_inputs <= 6

Number of die inputs >= 0

Input

First 10 lines contains the snake and ladder board where each line has 10 tokens separated by a space. The tokens can either be integers, Start, End, S(number) or L(number) where

- Integer denotes the square number.
- Start denotes the left bottom position on the board from where the player starts the game.
- End denotes the left top position on the board.
- S(number) denotes that the current square has a snake that will take you down to a square whose number is mentioned in the parentheses.
- L(number) denotes that the current square has a ladder that will take you up to a square whose number is mentioned in the parentheses.

Second line contains *die_inputs* separated by a space.

Output

Find if it is possible for the player to reach the *End* or not, based on the *die_inputs* and the board. If it is possible, display 'Possible' with the number of snakes and ladders encountered during his/her play, else display 'Not possible' along with the number of snakes, number of ladders and the square where the player's coin has ended at.

Print all the outputs delimited by a space.

Refer *Examples* section for better understanding.

Time Limit (secs)

1

Examples

Example 1

Input

End S(Start) 98 97 96 95 94 93 92 91

81 82 83 84 L(98) 86 87 88 89 90

80 79 S(46) 77 76 75 74 73 72 71

61 62 63 64 65 66 67 68 69 70

60 59 58 57 56 55 S(25) 53 52 51

41 42 43 L(62) 45 46 47 48 49 50

40 39 38 37 36 35 34 33 32 31

21 22 23 L(74) 25 26 27 28 29 30

20 19 18 17 S(2) 15 14 13 12 11

Start 2 3 4 5 6 7 8 9 10

5 4 2 4 1

Output

Not possible 1 0 2

Explanation

Based on the die inputs, the player moves from Start and first goes to number 5 on the board then to 9, 11, 15 and finally to S(2) i.e., square numbered 16. Now the player encountered a snake which takes him to the square numbered 2. So, the output is 'Not possible', as the player couldn't reach the *End* and the number of snakes and ladders encountered during his/her play are one and zero respectively.

Example 2

Input

End 99 98 S(7) 96 95 94 93 92 91

81 82 L(99) 84 85 86 87 88 89 90

80 79 78 77 76 75 74 73 72 71

61 S(22) 63 64 65 66 67 68 69 70

60 59 58 S(14) 56 57 54 53 52 51

41 42 43 44 45 46 L(80) 48 49 50

40 39 38 37 36 35 34 33 32 31

21 22 23 L(63) 25 26 27 28 29 30

20 19 S(2) 17 16 15 14 13 12 11

Start 2 3 4 5 6 7 8 9 10

6 6 6 5 4 3 6 6 6 5 6 4 3 1

Output

Possible 1 2

Explanation

Based on the die inputs, the player encountered 1 snake and 2 ladders and was able to reach the *End*.

Upload Solution [Question : B]

☐ I, **Soumyadeep** confirm that the answer submitted is my own. ☐ Took help from online sources (attributions)

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