ACSL
American Computer Science League

2014 - 2015 **Contest #3**

ACSL Isola
Intermediate Division

43	44	45	⊕	47	48	49
36	37	38	39	40	41	42
29	30	31	32	33	34	35
22	23	24	25	26	27	28
15	16	17	18	19	20	21
8	9	10	11	12	13	14
1	2	3	⊗	5	6	7

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PROBLEM: ACSL Isola is a board game played by 2 players with each player having just one marker. The game has 49 grid squares as shown above. The 49 grid squares have removable numbered tiles. The players move in turn and can move horizontally in either direction, vertically in either direction and diagonally in every direction. The marker can move in the selected direction until it is adjacent to the opposing marker or reaches the boundary of the board. After the move, the player removes all the tiles in the path moved. Once a tile is removed it too becomes a boundary and cannot be landed on or passed over. The object of the game is to be the last player to be able to make a move.

INPUT: There will be 5 lines of input. Each line will give the location numbers of the ⊕ and ⊗ symbols and the list of numbered tiles already removed. That list will end with a zero.

OUTPUT: For each input line, it will always be the ⊗ turn to move. Print the longest list of tile numbers in any order that can be removed by the move. We guarantee the longest list will be unique for each input line. If the marker can't move print NONE.

SAMPLE INPUT

1. 40, 42, 10,49, 0
2. 33, 32, 39, 25, 20, 24, 0
3. 22, 29, 32, 43, 5, 0
4. 44, 32, 39, 33, 25, 24, 31, 0
5. 25, 26, 33, 27, 19, 32, 34, 18, 20, 0

SAMPLE OUTPUT

1. 35, 28, 21, 14, 7
2. 29, 30, 31
3. 23, 17, 11
4. 26, 20, 14
5. NONE