ACSL

2012 - 2013 **American Computer Science League** **Contest #3**

Senior Division

ACSL Chess Queen

PROBLEM: The queen on the chess board is the most versatile piece. It can move in the following directions:

1. Left or Right to the borders of the chess board.
2. Up or Down to the borders of the chess board.
3. Diagonally to the borders of the chess board.

							(8,8)
(1,1)							

Since the queen can range in so many directions to capture an opponent's pieces, where can those pieces be placed safely? The ACSL chess board will be an 8 x 8 grid as labeled and shown above.

INPUT: There will be 5 lines of input. Each line will contain a series of ordered pairs representing the locations of pieces on the board. The end of the data will be denoted by a zero, zero.

OUTPUT: Print the ordered pair with the lowest row number where the queen can be placed so it can capture all the listed pieces. If the queen can't capture all the pieces, then print NONE.

SAMPLE INPUT	SAMPLE OUTPUT
1. 5, 4, 3, 5, 0, 0	1. 2, 4
2. 2, 4, 3, 6, 4, 8, 0, 0	2. 2, 6
3. 7, 2, 5, 8, 2, 7, 1, 4, 0, 0	3. 1,8
4. 4, 3, 3, 8, 8, 5, 8, 7, 0, 0	4. 6, 5
5. 1, 2, 2, 8, 4, 4, 7, 7, 0, 0	5. 1, 7