ACSL

American Computer Science League

**All-Star #6**

**008 2015 - 2016**

**ACSL 3x2**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |
| 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
| 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 |
| 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 |

**PROBLEM**: ACSL 3x2 is a two-player strategy board game. It uses an 8 x 8 board (shown above) with black and white pieces. All pieces move 3 spaces either horizontally or vertically and then 2 spaces in the opposite direction. Ex: a piece at location 36 could move to location 14, 49 and 62 among others.

* + - 1. A single piece is captured if it is surrounded on two opposite sides. Multiple adjacent pieces in a horizontal or vertical line can be captured in the same manner,
      2. The outside walls can be used to capture pieces.
      3. A piece in the corner can be captured by two pieces placed across the corner.
      4. The piece can make multiple complete moves as long as it does not cross an outside border or move over an opponent’s piece. The piece must capture opponent’s pieces in order to extend the move. Sample Inputs #6 and #7 show a move of this type. Since the white pieces are captured by the same black piece in one move, their locations are printed on the same line.

**INPUT:** There will be 10 lines of input. Each line will contain the number of white pieces followed by their locations and the number of black pieces followed by their locations. It will always be black’s turn to move.

**OUTPUT:** For each line of input, move a black piece so that the most white pieces are captured. Print the location number(s) of those most captured by that black piece in any order. If no white pieces can be captured print NONE. If there is more than one solution for the most captured pieces, print each solution on a different line.

**SAMPLE INPUT** **SAMPLE OUTPUT**  
1. 1, 35, 3, 34, 27, 62 1. 35  
2. 3, 33, 34, 35, 1, 55 2. 33, 34, 35  
3. 1, 1, 2, 9, 28 3. 1  
4. 2, 1, 3, 2, 9, 28 4. NONE  
5. 5, 18, 19, 20, 22, 23, 2, 17, 40 5. 18, 19, 20  
6. 5, 57, 28, 29, 6, 7, 4, 58, 36, 30, 8 6. 57, 28, 29, 6, 7  
7. 3, 35, 34, 15, 3, 33, 16, 62 7. 34, 35, 15  
8. 7, 50, 51, 52, 53, 25, 26, 27,1, 32 8. NONE  
9. 5, 25, 26, 27, 61, 62, 2, 47, 63 9. 25, 26, 27  
10. 10, 10, 11, 49, 50, 51, 52, 13, 21, 29, 37, 3, 9, 45, 31 10. 13, 21, 29, 37  
 49, 50, 51, 52

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**TEST DATA**

**TEST INPUT TEST OUTPUT**

1. 3, 35, 43, 64, 3, 34, 37, 56 1. 64

2. 2, 51, 43, 2, 59, 61 2. 43, 51

3. 3, 10, 28, 37, 3, 51, 36, 64 3. 37

4. 3, 9, 59, 23, 3, 50, 45, 62 4. NONE

5. 2, 9, 26, 1, 53 5. NONE

6. 2, 57, 41, 3, 49, 36, 20 6. 57

41

7. 6, 35, 36, 37, 9, 10, 11, 2, 64, 34 7. 35, 36, 37, 9, 10, 11

8. 4, 35, 43, 51, 38, 3, 59, 53, 30 8. 35, 43, 51

9. 4, 17, 18, 7, 8, 1, 45 9. 17, 18, 7, 8

10. 2, 63, 37, 2, 36, 64 10. 63   
 37