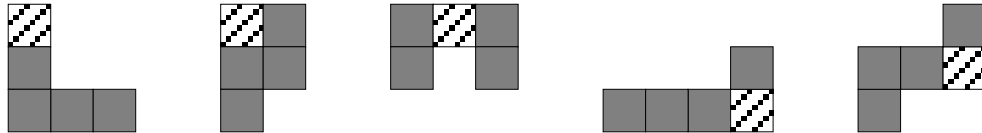


“Pentominoes”

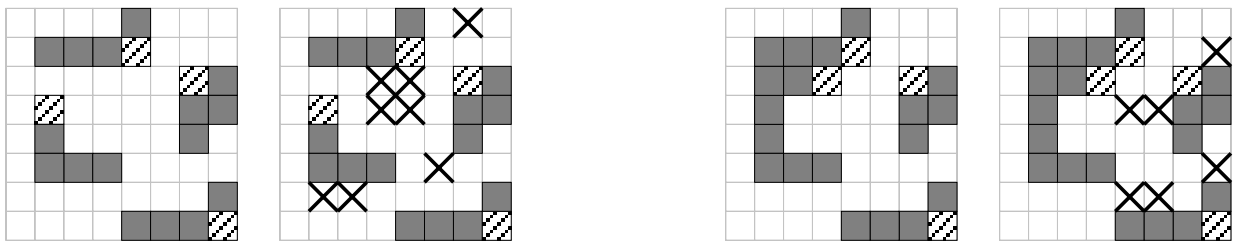
Problem: A *pentomino* is a shape formed by combining 5 squares. Here are the five pentominoes that we’ll use in this problem:



Let’s call them A, B, . . . , E, from left to right. One of the squares in each pentomino is drawn differently; this is called the *reference square*.

We’ll give you the position of up to 10 of these pentominoes within a 8x8 grid. Some of the pentominoes will overlap, but they will all fit within the grid. You’ll be given a new pentomino, and your job will be to report the number of cells in the grid where its reference square can be placed such that the pentomino will not overlap any other pentomino.

For example, the input line “4, A,2,5, D,5,7, B,7,6, D,8,1, C” means the following: There are 4 pentominoes on the grid. The first one, shape A, has its reference square at cell (2,5); the second one, shape D, has its reference square at cell (5,7); B is at (7,6) and another pentomino of shape D is at (8,1). None of the squares of any of the pentominoes overlap. The final C indicates that pentomino shaped C is the one to fit into the grid. It can fit into 8 cells, shown by the “X”s in the pair of diagrams at the left below. If the input line were “5, A,2,5, D,5,7, B,7,6, D,8,1, E,4,6, E” the cells at (2,5) and (4,7) would be covered by squares from two different pentominoes, and pentomino “E” could be placed in 6 different cells as shown in the diagrams on the right below.



Sample Input:

Line #1: 5, A,4,4, B,5,6, E,4,7, C,2,4, D,8,3, D
 Line #2: 6, E,5,7, E,8,7, D,8,7, C,5,5, A,1,3, B,7,3, E
 Line #3: 7, C,5,2, C,5,3, C,5,4, C,5,5, C,5,6, C,5,7, C,5,8, D
 Line #4: 6, A,1,8, A,4,6, D,4,4, E,3,6, B,2,7, C,4,7, A
 Line #5: 5, A,5,5, B,5,5, C,5,5, D,5,5, E,5,5, C

Sample Output:

Output #1: 4
 Output #2: 2
 Output #3: 0
 Output #4: 8
 Output #5: 18

“Pentominoes”

Test Input:

Line #1: 3, A,3,4, B,5,7, C,2,8, D

Line #2: 4, A,1,4, C,4,8, D,8,1, A,5,5, B

Line #3: 5, A,1,8, B,2,8, C,4,3, D,5,2, E,4,2, A

Line #4: 10, E,8,7, E,8,5, E,8,3, D,8,1, C,2,8, C,2,6, C,2,4, C,2,2, B,4,3, B,4,6 E

Line #5: 4, B,1,8, B,2,7, D,8,1, A,6,3, C

Test Output:

Output #1: 9

Output #2: 12

Output #3: 12

Output #4: 0

Output #5: 22