2D Array DS - Hourglass

Extracted from: Hackerrank
Source file name: `hourglass.py`
Time limit: 3

Given a 6 *x* 6 *2D Array*, *A*:

1 1 1 0 0 0
0 1 0 0 0 0
1 1 1 0 0 0
0 0 0 0 0 0
0 0 0 0 0 0
0 0 0 0 0 0

We define an **hourglass** in *A* to be a subset of values with indices falling in this pattern in *A's* graphical representation:

a b c
d
e f g

There are 16 hourglasses in *A*, and an *hourglass sum* is the sum of an hourglass' values.

Calculate the hourglass sum for every hourglass in *A*, then print the *maximum* hourglass sum.

Input

There are 6 lines of input, where each line contains 6 space-separated integers describing the *2D Array A*; every value in *A* will be in the inclusive range of -9 to 9.

Constraints

1. $-9 \leq A[i][j] \leq 9$
2. $0 \leq i, j \leq 5$

The input must be read from standard input.

Output

Print the largest (maximum) hourglass sum found in *A*.

The output must be written to standard output.

Sample Input	**Sample Output**

`1 1 1 0 0 0`
`0 1 0 0 0 0`
`1 1 1 0 0 0`
`0 0 0 0 0 0`
`0 0 0 0 0 0`
`0 0 0 0 0 0`
	19

Explanation
A contains the following hourglasses:

```
1 1 1   1 1 0   1 0 0   0 0 0
  1       0       0       0
1 1 1   1 1 0   1 0 0   0 0 0

0 1 0   1 0 0   0 0 0   0 0 0
  1       1       0       0
0 0 2   0 2 4   2 4 4   4 4 0

1 1 1   1 1 0   1 0 0   0 0 0
  0       2       4       4
0 0 0   0 0 2   0 2 0   2 0 0

0 0 2   0 2 4   2 4 4   4 4 0
  0       0       2       0
0 0 1   0 1 2   1 2 4   2 4 0
```

The hourglass with the maximum sum(**19**) is:

```
2 4 4
  2
1 2 4
```