Day 11: 2D Arrays

Objective

Today, we're building on our knowledge of *Arrays* by adding another dimension. Check out the Tutorial tab for learning materials and an instructional video!

Context

Given a 6×6 *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.

Task

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

Input Format

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

Constraints

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

Output Format

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

Sample Input

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

Sample Output

```
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
```