

2D Array - DS

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.

Note: If you have already solved the Java domain's *Java 2D Array* challenge, you may wish to skip this challenge.

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
```