2D Array - DS

Given a 6×6 2D Array arr:

```
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 arr's graphical representation:

```
a b c
  d
e f g
```

There are 16 hourglasses in arr, and an hourglass sum is the sum of an hourglass' values. Calculate the hourglass sum for every hourglass in arr, then print the maximum hourglass sum.

For example, given the 2D array:

```
-9 -9 -9  1 1 1
 0 -9  0  4 3 2
-9 -9 -9  1 2 3
 0  0  8  6 6 0
 0  0  0 -2 0 0
 0  0  1  2 4 0
```

We calculate the following 16 hourglass values:

```
-63, -34, -9, 12,
-10, 0, 28, 23,
-27, -11, -2, 10,
9, 17, 25, 18
```

Our highest hourglass value is 28 from the hourglass:

```
0 4 3
  1
8 6 6
```

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

Function Description

Complete the function hourglassSum in the editor below. It should return an integer, the maximum hourglass sum in the array.

hourglassSum has the following parameter(s):

- arr: an array of integers

Input Format

Each of the 6 lines of inputs $arr[i]$ contains 6 space-separated integers $arr[i][j]$.

Constraints

- $-9 \le arr[i][j] \le 9$
- $0 \le i, j \le 5$

Output Format

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

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

arr contains the following hourglasses:

```
111 110 100 000
 1   0   0   0
111 110 100 000

010 100 000 000
 1   1   0   0
002 024 244 440

111 110 100 000
 0   2   4   4
000 002 020 200

002 024 244 440
 0   0   2   0
001 012 124 240
```

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

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