





# 2D Array - DS 🏠

**Problem** Leaderboard Editorial 🖰 Submissions

Given a  $6 \times 6$  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

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  $\it arr$ , 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:

Our highest hourglass value is **28** from the hourglass:

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.

• arr: an array of integers

hourglassSum has the following parameter(s):

#### **Input Format**

Each of the  $\bf 6$  lines of inputs arr[i] contains  $\bf 6$  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:

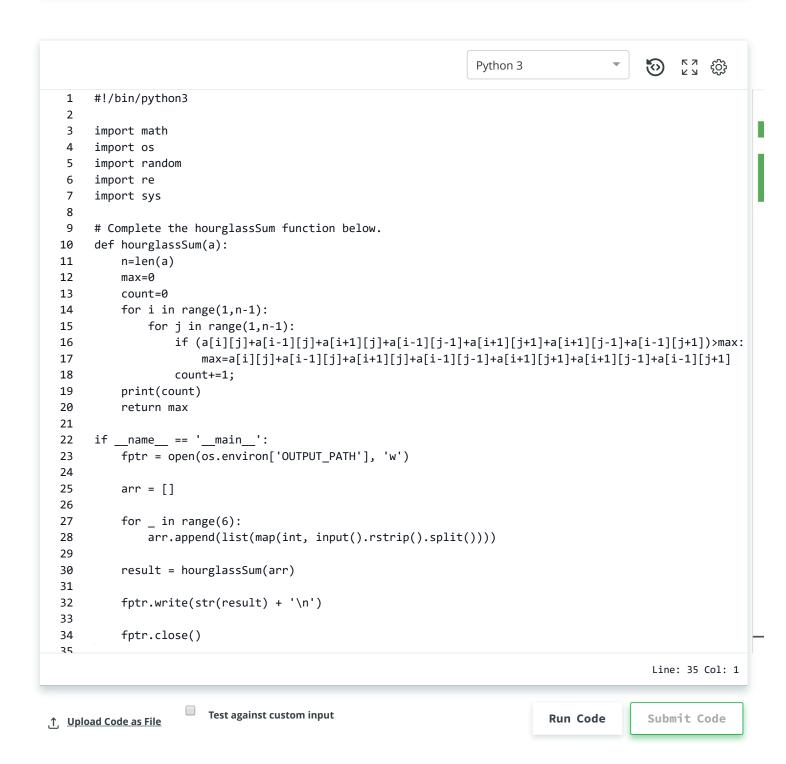
```
111 110 100 000
111 110 100 000
0101000000000
0 0 2 0 2 4 2 4 4 4 4 0
111 110 100 000
000 002 020 200
0 0 2 0 2 4 2 4 4 4 4 0
0 0 1 0 1 2 1 2 4 2 4 0
```

The hourglass with the maximum sum (19) is:

2 4 4

2

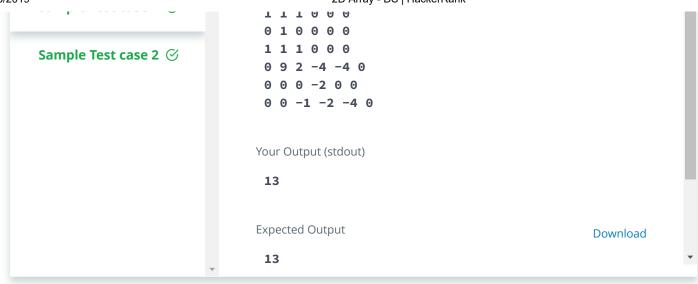




## **Congratulations!**

You have passed the sample test cases. Click the submit button to run your code against all the test cases.





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