All Contests › Week of Code - 19 › Fix the Cycles

Fix the Cycles

👤 by **Shafaet**
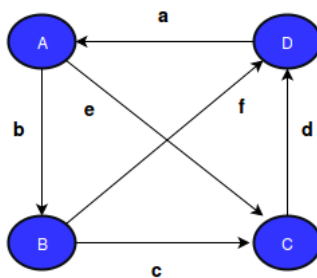
Problem	Submissions	Leaderboard	Discussions

Your submission will run against only preliminary test cases. Full test cases will run at the end of the day.

You're given a directed weighted graph with 4 nodes (A, B, C, and D) and 6 edges, defined below:

- $D \rightarrow A$ has weight a
- $A \rightarrow B$ has weight b
- $B \rightarrow C$ has weight c
- $C \rightarrow D$ has weight d
- $A \rightarrow C$ has weight e
- $B \rightarrow D$ has weight f

The *total weight* of a simple cycle is the sum of its edge weights (e.g.: $A \rightarrow C \rightarrow D \rightarrow A$ has a total weight of $e + d + a$). If the total weight is negative, it's called a *negative cycle*.

Given edge weights a, b, c, d, e, and f, find some minimum non-negative integer (p) that, when added to *one single* edge weight in the graph, will get rid of any negative cycles.

Input Format

A single line containing 6 space-separated integers: a, b, c, d, e, and f, respectively.

Constraints

- $-20 \le a, b, c, d, e, f \le 20$

Output Format

Print the minimum value of p; if no non-negative p will eliminate the negative cycle, print -1.

Sample Input

```
2 -5 0 1 1 1
```

Sample Output

```
2
```

Explanation

Adding 2 to b (the weight of edge $A \to B$) will remove the negative cycle.

Submissions: 1549

Max Score: 30

Difficulty: Easy

 Download PDF

 Suggest Edits

Collapse

Current Buffer (saved locally, editable)   C#

```
1  using System;
2  using System.Collections.Generic;
3  using System.IO;
4 ▾class Solution {
5 ▾    static void Main(String[] args) {
6          /* Enter your code here. Read input from STDIN. Print output to STDOUT. Your class should be named Solution
   */
7      }
8  }
```

Line: 1 Col: 1

⬆ Upload Code as File   ☐ **Test against custom input**   Run Code   Submit Code

Join us on IRC at #hackerrank on freenode for hugs or bugs.

Contest Calendar | Blog | Scoring | Environment | FAQ | About Us | Support | Careers | Privacy Policy | Request a Feature