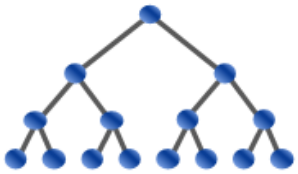
USA Computing Olympiad



USACO 2015 December Contest, Bronze
Problem 1. Fence Painting

Return to Problem List

Contest has ended.

Submitted; Results below show the outcome for each judge test case

1	2	3	4	5	6	7	8	9	10
*	*	*	*	*	*	*	*	*	*
32.4mb 181ms	32.0mb 178ms	32.0mb 157ms	32.1mb 172ms	32.2mb 185ms	32.1mb 175ms	32.1mb 153ms	32.0mb 181ms	32.2mb 175ms	32.1mb 186ms

English (en)

Several seasons of hot summers and cold winters have taken their toll on Farmer John's fence, and he decides it is time to repaint it, along with the help of his favorite cow, Bessie. Unfortunately, while Bessie is actually remarkably proficient at painting, she is not as good at understanding Farmer John's instructions.

If we regard the fence as a one-dimensional number line, Farmer John paints the interval between $x = a$ and $x = b$. For example, if $a = 3$ and $b = 5$, then Farmer John paints an interval of length 2. Bessie, misunderstanding Farmer John's instructions, paints the interval from $x = c$ to $x = d$, which may possibly overlap with part or all of Farmer John's interval. Please determine the total length of fence that is now covered with paint.

INPUT FORMAT (file paint.in):

The first line of the input contains the integers a and b, separated by a space ($a < b$).

The second line contains integers c and d, separated by a space ($c < d$).

The values of a, b, c, and d all lie in the range $0 \ldots 100$, inclusive.

OUTPUT FORMAT (file paint.out):

Please output a single line containing the total length of the fence covered with paint.

SAMPLE INPUT:

```
7 10
4 8
```

SAMPLE OUTPUT:

```
6
```

Here, 6 total units of fence are covered with paint, from $x = 4$ all the way through $x = 10$.

Problem credits: Brian Dean

Language: C

Source File: Choose File No file chosen

Submit Solution

Note: Many issues (e.g., uninitialized variables, out-of-bounds memory access) can cause a program to produce different output when run multiple times; if your program behaves in a manner inconsistent with the official contest results, you should probably look for one of these issues. Timing can also differ slightly from run to run, so it is possible for a program timing out in the official results to occasionally run just under the time limit in analysis mode, and vice versa. Note also that we have recently changed grading servers, and since our

new servers run at different speeds from the servers used during older contests, timing results for older contest problems may be slightly off until we manage to re-calibrate everything properly.