**Catch That Cow**

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| --- | --- | --- |
| **Time Limit:** 2000MS |  | **Memory Limit:** 65536K |
|  |  |  |

**Description**

Farmer John has been informed of the location of a fugitive cow and wants to catch her immediately. He starts at a point *N* (0 ≤ *N* ≤ 100,000) on a number line and the cow is at a point *K* (0 ≤ *K* ≤ 100,000) on the same number line. Farmer John has two modes of transportation: walking and teleporting.

\* Walking: FJ can move from any point *X* to the points *X*- 1 or *X*+ 1 in a single minute  
\* Teleporting: FJ can move from any point *X* to the point 2 × *X* in a single minute.

If the cow, unaware of its pursuit, does not move at all, how long does it take for Farmer John to retrieve it?

**Input**

Line 1: Two space-separated integers: *N* and *K*

**Output**

Line 1: The least amount of time, in minutes, it takes for Farmer John to catch the fugitive cow.

**Sample Input**

5 17

**Sample Output**

4

**Hint**

The fastest way for Farmer John to reach the fugitive cow is to move along the following path: 5-10-9-18-17, which takes 4 minutes.

**Source**

[USACO 2007 Open Silver](http://poj.org/searchproblem?field=source&key=USACO+2007+Open+Silver)