2021 ICPC ASIA DHAKA REGIONAL ONLINE PRELIMINARY CONTEST HOSTED BY BUBT

Finished

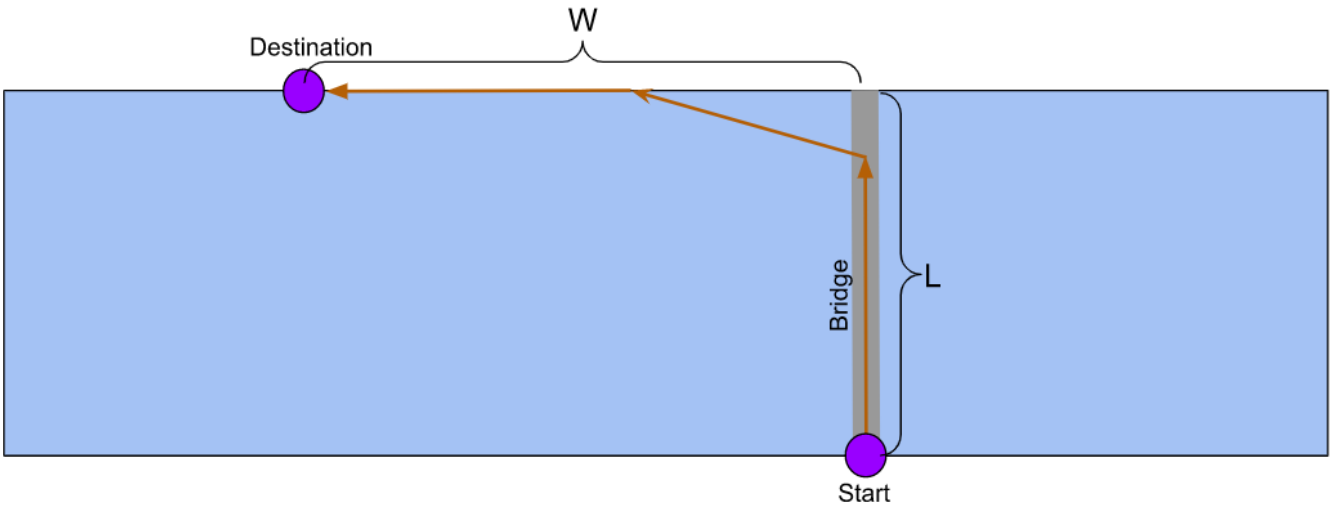
THE CONTEST HAS ENDED.

I. Hovercraft

Score: 1

CPU: 1s
Memory: 2048MB

Bangladesh is arguably still a land of rivers but hovercrafts are not frequently seen. In this problem you are requested to find the minimum distance to destination using a hovercraft with certain limitations. The limitation is that it must cover **D** distance on land so that the engine can warm up and then it can cover at most **D** distance in the water. The bridge should also be considered as land.



You will have to cross a river of width **L** starting from the start (As shown in the image) and then reach a destination that is **W** distance away from the other side of the bridge. From the starting location you can cross the river via the bridge and then go to the destination and avoid water completely. In this case your total crossed distance will be **L+W**. Alternatively after crossing the river partially by the bridge you can go through

the water and again through land to reach your destination. In this way the total distance covered will be less than **L+W**. Given the value of **L** and **W** (Here always **W>L**), your job is to find the minimum distance that needs to be covered to reach the destination from the starting point.

Input

The input file contains at most **1000** lines of input. Each line contains two positive integers that denote the value of **L** and **W (0 < L < W < 1000)**. Input is terminated by a line containing two zeroes which should not be processed.

Output

For each line of input produce one line of output. This line should contain a floating-point number that denotes the minimum possible distance. This number should have four digits after the decimal point. You can assume that input will be such that small precision errors will not cause any difference the printed in output.

Sample

Input	Output
11 23 7 13 0 0	31.2500 18.2500