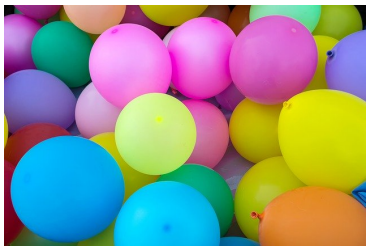
# Problem C
## Contest Struggles

Lotte is competing in a programming contest. Her team has already solved $k$ out of the $n$ problems in the problem set, but as the problems become harder, she begins to lose focus and her mind starts to wander.



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She recalls hearing the judges talk about the difficulty of the problems, which they rate on an integer scale from 0 to 100, inclusive. In fact, one of the judges said that "*the problem set has never been so tough, the average difficulty of the problems in the problem set is $d$!*"

She starts thinking about the problems her team has solved so far, and comes up with an estimate $s$ for their average difficulty. In hope of gaining some motivation, Lotte wonders if she can use this information to determine the average difficulty of the remaining problems.

## Input

The input consists of:

- One line with two integers $n$ and $k$ ($2 \leq n \leq 10^6$, $0 < k < n$), the total number of problems and the number of problems Lotte's team has solved so far.
- One line with two integers $d$ and $s$ ($0 \leq d, s \leq 100$), the average difficulty of all the problems and Lotte's estimate of the average difficulty of the problems her team has solved.

## Output

Assuming Lotte's estimate is correct, output the average difficulty of the unsolved problems, or "`impossible`" if the average difficulty does not exist. Your answer should have an absolute or relative error of at most $10^{-6}$.

| Sample Input 1 | Sample Output 1 |
|---|---|
| 2 1<br>70 50 | 90.00 |

| Sample Input 2 | Sample Output 2 |
|---|---|
| 10 3<br>80 90 | 75.7142857 |

| Sample Input 3 | Sample Output 3 |
|---|---|
| 2 1<br>100 10 | impossible |

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