
Disorder Test**X57031_en**

In a strictly increasing ordered sequence of integers x_0, \dots, x_r (such as 5, 8, 12, 20 for example) each element is strictly larger than the previous one: $x_i > x_{i-1}$ for all $i > 0$, that is, $x_{i-1} - x_i < 0$.

A k -ordered sequence is a sequence where $x_{i-1} - x_i < k$ for all $i > 0$. Thus, a strictly increasing sequence is 0-ordered, and a sequence that is increasing but maybe not strictly (like -3, -1 -1, 4, 4, 7 for example) is 1-ordered.

Larger values of k represent bounded disorder: k bounds how smaller than its predecessor each element can be.

Write a function `disorder_test(k, ls)` that receives a nonnegative integer k and a list ls of integers and checks whether ls is k -ordered, that is, returns `True` if ls is k -ordered, and `False` otherwise.

Observation

Only the function will be evaluated. If your submission includes a main program (e.g. with `testmod`), it must be either commented out or inside a condition `"if __name__ == '__main__':"`

Problem information

Author: ProAl

Generation: 2026-01-25T17:01:56.230Z

© Jutge.org, 2006–2026.

<https://jutge.org>