



Math for the people, by the people.

## monotonically nondecreasing

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A sequence  $(s_n)$  (with real elements) is called *monotonically nondecreasing* if

$$s_m \geq s_n \quad \forall m > n$$

Similarly, a real function  $f(x)$  is called monotonically nondecreasing if

$$f(x) \geq f(y) \quad \forall x > y$$

Compare this to monotonically increasing.

**Conflict note.** In other contexts, such as [?], this is called *monotonically increasing* (despite the fact that the sequence could be “flat.” In such a context, our definition of “monotonically increasing” is called *strictly increasing*.

## References

- [1] “<http://www.nist.gov/dads/HTML/monotoncincr.html>monotonically increasing,” from the NIST Dictionary of Algorithms and Data Structures, Paul E. Black, ed.