monotonically increasing

Canonical name	MonotonicallyIncreasing
Date of creation	2013-03-22 12:22:35
Last modified on	2013-03-22 12:22:35
Owner	akrowne (2)
Last modified by	akrowne (2)
Numerical id	10
Author	akrowne (2)
Entry type	Definition
Classification	msc 40-00
Synonym	monotone increasing
Synonym	strictly increasing
Related topic	MonotonicallyDecreasing

A sequence (s_n), $s_n \in \mathbb{R}$ is called *monotonically increasing* if

$$s_m > s_n \; \forall \; m > n$$

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

$$f(x) > f(y) \; \forall \; x > y$$

Compare this to monotonically nondecreasing.

Conflict note. This condition is also sometimes called *strictly increasing* [?]. In such a context, "monotonically increasing" has the same meaning as monotonically nondecreasing.

References

[1] "`http://www.nist.gov/dads/HTML/strictlyIncreasing.html`strictly increasing," from the NIST Dictionary of Algorithms and Data Structures, Paul E. Black, ed.