Definition of Monotonic Sequence

A sequence (a_n) is **monotonic** when its terms are non-decreasing

$$a_1 \leq a_2 \leq a_3 \leq \ldots a_n \leq \ldots$$

or when its terms are non-increasing

$$a_1 \geq a_2 \geq a_3 \geq \ldots a_n \geq \ldots$$