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The relation *R* on \mathbb{Z} defined by *a R b* if $a \ge b - 1$ is:

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- ▶ not symmetric: 3 R 1 but 1 R 3;
- ▶ not anti-symmetric: 1 *R* 2 and 2 *R* 1;
- ▶ not transitive: 1 R 2 R 3, but 1 R 3.

Sequences



We may write this list as $(a_k)_{k=1}^{\infty}$ or $(a_k)_{k\in\mathbb{N}}$.

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is the sequence $((-2)^k)_{k \in \mathbb{N}}$.

Subsequences

The sequence $(a_k)_{k=1}^{\infty}$, where $a_k = k^2$:

1, 4, 9, 16, 25, 36, . . .

The sequence $(a_k)_{k=1}^{\infty}$, where $a_k = k^2$:

The sequence $(b_k)_{k=1}^{\infty}$, where $b_k = 4k^2$.