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Jean S. Joseph* (jsjean00@gmail.com). *Minimum of a Subset of a Set with an Infinitary Relation*. Preliminary report.

Given any set X with an infinitary relation and any subset S of X , we propose a notion of a **minimum** of S , which is a generalization of a minimum of a subset in the case of a set with a binary relation, and we give conditions under which any subset of X with an infinitary relation has a minimum. By an infinitary relation on X , we mean any function from the set of all infinite sequences in X to the set of all propositions. Informally, an infinitary relation is any property of an infinite sequence, such as monotonicity and convergence of a sequence. The development is constructive. (Received December 12, 2020)