Abstract: The idea of convexity is very important especially for probability theory, optimization and stochastic optimization. Convexity is a unique set property in many ways, which is worth to be studied. Various properties of convex sets are generally known, such as the ones related to separability. It however becomes apparent that the definition of convexity is very interesting, since it is possible to replace the definition by various collections of properties which are equivalent to it. There also exist set operations preserving convexity and another ones which preserve it when supported by another requirements.