Nonclassicality plays a central role as a resource in quantum information processing tasks that cannot be done efficiently classically. In the first part of this talk, I will review various types of nonclassical correlations and discuss entropic measures for quantifying these correlations. I will introduce a measurement-based method for verifying nonclassical correlations in bipartite quantum systems. Using this method, I will show that a bipartite Gaussian state has nonzero nonclassical correlations if and only if it is not a product state. In the second part, I will briefly talk about nonclassicality in terms of phase-space quasiprobability distributions for bosonic quantum states, and propose a definition of nonclassicality for quantum processes.