Markov processes represent a special class of stochastic processes whose evolution depends only on the current state and not on the entire history. In this work, we first present some basic properties of these processes and then focus on those that are solutions to stochastic differential equations. We subsequently address the question of the existence of an invariant measure, which is closely related to the existence of stationary solutions. We relax the assumptions of a known sufficient condition and then use this condition to demonstrate when the existence of an invariant measure for a one-dimensional equation is guaranteed. Finally, we derive an easily verifiable sufficient condition for the case when certain asymptotic properties of the coefficients of the one-dimensional equation are known.