1. What is the definition of class P?
2. Suppose that is a set of positive integers and suppose that there is an algorithm that takes an integer and tells you whether in time O(*n*2) . Can you conclude that is in P based on that? Explain why or why not.
3. Suppose that is a set of strings, and suppose that there is an algorithm that takes a string and tells you whether in time O(), where . Can you conclude that is not in P based on that? Explain why or why not.
4. A *triangle* in a simple graph consists of three mutually adjacent vertices. Show that the problem of determining whether a simple graph contains a triangle is in P.