Substrings

1. In English, a *gerund* is a noun made by appending *-ing* to a verb, e.g. "His *chewing* was too loud." Write a program that asks the user to enter a word, and identifies if the word is a possible gerund.†
2. Use the `count` method to determine the number of vowels in a user-entered string.
3. Read a string from the user. Next, read an arbitrary number of strings and determine how many began with the initial string.
4. Generate 20 random strings of 10 letters each, and determine how many strings contain at least one 'x'.
5. Have the user enter a string, then determine the index of the *second* occurrence of the letter "a" (if it exists in the string at all).
6. An *n*-digit positive integer is *pandigital* is it contains the digits 1 through *n* in some order. For example, 2143 and 5621374 are pandigital. Read an integer, and determine if it is pandigital.
7. *Overlapping Substrings*: Count the number of times a substring occurs in a word, allowing for the possibility that two or more substrings overlap. For example, the substring "ana" occurs twice in the string "banana" (b**ana**na and ban**ana**). The `count` method will return only 1 instance. Write a function that will return the total number of *all* such instances.
8. *Anagrams (version 1.0)*: Two words which have exactly the same letters, but are rearrangements, are called anagrams. For example, the words "coat" and "taco" are anagrams, as are the words "looped" and "poodle" (note that each word contains the same number of o's). Write a program that reads two strings and determines if they are anagrams.

† Not all words ending in *-ing* are gerunds, e.g. "ring" or "evening".