Loopy Numbers

Problem Description

Imagine a number which has the property that the sum of all its divisors (including 1, but excluding the number itself) equals the number. Such a number could be considered happy.

Now imagine a group of n numbers that are related in the following way: the sum of the divisors of the first number (except the first number itself) is equal to the second number, the sum of the divisors of the second number (except the second number itself) is equal to the third number, and so on, and the sum of the divisors of the nth number (except the nth number itself) is equal to the *first* number. The numbers making up such a set could be considered loopy.

Task

Write a computer program to find loopy numbers under 9,000,000. How many loops can you find? How big a loop can you find?

Relates to Objectives

1.1   1.2   1.3   2.1   2.2   2.4   2.7   2.8   3.1   3.3   3.5   3.6   4.1   4.2   4.3

(Pair)