

SHORTEST REPETITION

CHALLENGE DESCRIPTION:

Write a program to determine the shortest repetition in a string.

A string is said to have period **p** if it can be formed by concatenating one or more repetitions of another string of length **p**. For example, the string "xyzxyzxyzxyz" has period 3, since it is formed by 4 repetitions of the string "xyz". It also has periods 6 (two repetitions of "xyzxyz") and 12 (one repetition of "xyzxyzxyzxyz").

INPUT SAMPLE:

Your program should accept as its first argument a path to a filename. Each line will contain a string of up to 80 non-blank characters. E.g.

[illegible]

OUTPUT SAMPLE:

Print out the smallest period of the input string. E.g.