Substrings

In some words the same sequence of letters, or substring, may occur more than once. For example: tantamount, ionization, mathematics, singing, ingratiating. Other words contain no such substrings. For example: sequence, substring, contain.

Task

Write a program that, given an alphabet, finds the longest string that contains no repeated sequences. Examples:

alphabet size	alphabet	example string
1	a	aa
2	ab	aabba
3	abc	aabbccbaca

Notes:

1. The longest string is not unique. Any of the possible answers will do.

2. Substrings may overlap. For example 'aaa' contains the substring 'aa' in positions 1–2 and 2–3.

3. Repeats of single letters are allowed.

Relates to Objectives

1.2 1.3 2.1 2.2 2.4 2.7 2.9 3.4 3.5 4.1 4.2 4.3

(1 point, Group)