

## GENERALIZED SMARANDACHE PALINDROME

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A Generalized Smarandache Palindrome is a number of the form:  $a_1a_2\dots a_n a_n \dots a_2 a_1$  or  $a_1 a_2 \dots a_{n-1} a_n a_{n-1} \dots a_2 a_1$ , where all  $a_1, a_2, \dots, a_n$  are positive integers of various number of digits.

Examples:

- a) 1235656312 is a GSP because we can group it as (12)(3)(56)(56)(3)(12), i.e. ABCCBA.
- b) Of course, any integer can be consider a GSP because we may consider the entire number as equal to  $a_1$ , which is smarandachely palindromic; say  $N = 176293$  is GSP because we may take  $a_1 = 176293$  and thus  $N = a_1$ . But one disregards this trivial case.

Very interesting GSP are formed from smarandacheian sequences.

Let us consider this one:

11, 1221, 123321, ..., 123456789987654321,

1234567891010987654321, 1234567891011110987654321, ...

all of them are GSP.

It has been proven that 1234567891010987654321 is a prime (see

<http://www.kottke.org/notes/0103.html>,

and the Prime Curios site).

**A question:** How many other GSP are in the above sequence?