Sixteen sequences of primes obtained by concatenation from p-1 respectively p+1 where p prime

Abstract. In this paper I make the following four conjectures: (I) there exist, for any prime p having the value of the last digit d egual to 1, respectively to 3, 7 or 9, an infinity of primes obtained concatenating p – 1 with the value of d; (II) there exist, for any prime p having the value of the last digit d egual to 1, respectively to 3, 7 or 9, an infinity of primes obtained concatenating twice p – 1 with the value of d; (III) there exist, for any prime p having the value of the last digit d egual to 1, respectively to 3, 7 or 9, an infinity of primes obtained concatenating p + 1 with the value of d; (II) there exist, for any prime p having the value of the last digit d egual to 1, respectively to 3, 7 or 9, an infinity of primes obtained concatenating twice p + 1 with the value of d.

Conjecture 1:

There exist, for any prime p having the value of the last digit d egual to 1, respectively to 3, 7 or 9, an infinity of primes q obtained concatenating p – 1 with the value of d.

The sequence of q obtained from p having last digit 1:
: 101, 401, 601, 701, 1301, 1801, 1901, 2801, 3301 (...) 9824504101, 9824511601, 9824513201 (...)
obtained for p = 11, 41, 61, 71, 181, 191, 281, 311 (...) 982450411, 982451161, 982451321 (...)

The sequence of q obtained from p having last digit 3:
: 223, 523, 823, 1123, 1723, 3823, 4423, 5023, 5623 (...) 9824490523, 9824491123, 9824502223 (...)
obtained for p = 23, 53, 83, 113, 173, 383, 443, 503 (...) 9824490523, 982449113, 982450223 (...)

The sequence of q obtained from p having last digit 7:
: 167, 367, 467, 967, 1367, 1567, 1667, 2267, 2567 (...) 9824507867, 9824507867, 9824514967 (...)
obtained for p = 17, 37, 47, 97, 137, 157, 167, 227, 257 (...) 982450787, 982450787, 982451497 (...)

The sequence of q obtained from p having last digit 9:
: 1489, 1789, 2389, 2689, 3889, 4789, 5689, 8089, 8389 (...)9824490589, 9824494489, 9824511589 (...)
obtained for p = 149, 179, 239, 269, 389, 479, 569, 809, 839 (...) 982449059, 982449449, 982451159 (...)

Conjecture 2:

There exist, for any prime p having the value of the last digit d egual to 1, respectively to 3, 7 or 9, an infinity of primes q obtained concatenating twice p – 1 with the value of d.

The sequence of q obtained from p having last digit 1:
: 3011, 6011, 21011, 54011, 69011, 75011, 120011, 129011 (...) 982448491, 98244912011, 98244996011 (...)
obtained for p = 31, 61, 211, 541, 691, 751, 1201, 1291 (...) 98244849011, 982449121, 982449961 (...)

The sequence of q obtained from p having last digit 3:
: 5233, 8233, 59233, 95233, 110233, 119233, 158233, 161233 (...) 98244998233, 98245022233, 98245091233 (...)
obtained for p = 53, 83, 593, 953, 1103, 1193, 1583, 1613 (...) 98244998233, 982450223, 982450913 (...)

The sequence of q obtained from p having last digit 7:
: 3677, 9677, 30677, 45677, 48677, 108677, 123677, 156677 (...) 98245149677 (...)
obtained for p = 37, 97, 307, 457, 487, 1087, 1237, 1567 (...) 982451497 (...)

The sequence of q obtained from p having last digit 9:
: 23899, 35899, 65899, 71899, 92899, 110899, 125899, 131899 (...) 98244887899, 98244986899, 98245064899 (...)
obtained for p = 239, 359, 659, 719, 929, 1109, 1259, 1319 (...) 982448879, 982449869, 982450649 (...)

Conjecture 3:

There exist, for any prime p having the value of the last digit d egual to 1, respectively to 3, 7 or 9, an infinity of primes q obtained concatenating p + 1 with the value of d.

The sequence of q obtained from p having last digit 1:
: 421, 1021, 1321, 2521, 3121, 4021, 4621, 6421, 7621 (...) 9824501521 (...)
obtained for p = 41, 101, 131, 251, 311, 401, 461, 641, 761 (...) 982450151 (...)

The sequence of q obtained from p having last digit 3:
: 443, 743, 2243, 2843, 4643, 6143, 8243, 8543, 10343 (...) 9824491343, 9824495543, 9824510243 (...)

obtained for p = 43, 73, 223, 283, 463, 613, 823, 853, 1033 (...) 982449133, 982449553, 982451023 (...)

The sequence of q obtained from p having last digit 7:
: 487, 1087, 1987, 2287, 3187, 8287, 8887, 9787, 10987 (...)9824494387, 9824497087, 9824510887 (...)
obtained for p = 47, 107, 197, 227, 317, 827, 887, 977, 1097 (...) 982449437, 982449707, 982451087 (...)

The sequence of q obtained from p having last digit 9:
: 809, 1109, 1409, 2309, 4409, 5009, 7109, 8609, 9209 (...) 9824491109, 9824500409 (...)
obtained for p = 79, 109, 139, 229, 439, 499, 709, 859, 919 (...) 98244919, 982450039 (...)

Conjecture 4:

There exist, for any prime p having the value of the last digit d egual to 1, respectively to 3, 7 or 9, an infinity of primes q obtained concatenating twice p + 1 with the value of d.

The sequence of q obtained from p having last digit 1:
: 4211, 6211, 7211, 10211, 18211, 19211, 21211, 27211 (...) 98245087211, 98245119211, 98245123211, 98244957211 (...)
obtained for p = 41, 61, 71, 101, 181, 191, 211, 271 (...) 982450871, 982451191, 982451231, 982449571 (...)

The sequence of q obtained from p having last digit 3:
: 1433, 7433, 10433, 16433, 19433, 22433, 28433, 52433 (...) 98244895433, 98244994433 (...)
obtained for p = 13, 73, 103, 163, 193, 283, 523 (...)982448953, 982449943 (...)

The sequence of q obtained from p having last digit 7:
: 1877, 3877, 4877, 13877, 15877, 22877, 34877, 36877 (...) 98245018877, 98245020877, 98245069877 (...)
obtained for p = 17, 37, 47, 137, 157, 227, 347, 367 (...) 982450187, 982450207, 982450697 (...)

The sequence of q obtained from p having last digit 9:
: 2099, 23099, 35099, 62099, 74099, 107099, 128099, 146099 (...) 98245007099, 98245118099 (...)
obtained for p = 19, 229, 349, 619, 739, 1069, 1279, 1459 (...) 982450069, 982451179 (...)