

**Conjecture which states that an iterative operation
of any pair of two odd primes conducts to a larger
prime**

Marius Coman
Bucuresti, Romania
email: mariuscoman13@gmail.com

Abstract. In this paper I make a conjecture which states that from any two odd primes p_1 and p_2 can be obtained, through an iterative and very simple operation, a prime p_3 larger than p_1 and also larger than p_2 .

Conjecture:

Let p and q be two odd primes; then, through the iterative operation $((((p + 1)*q + 1) + 1)*q + 1\dots)$ finally it will be obtained a prime.

Verifying the conjecture:

(For $(p, q) = (1299709, 5)$)

: $1299709 + 1 = 1299710;$
: $1299710*5 + 1 = 6498551;$
: $6498551 + 1 = 6498552;$
: $6498552*5 + 1 = 32492761;$
: $32492761 + 1 = 32492762;$
: $32492762*5 + 1 = 162463811;$
: $162463811 + 1 = 162463812;$
: $162463812*5 + 1 = 812319061;$
: $812319061 + 1 = 812319062;$
: $812319062*5 + 1 = 4061595311$ which is prime.

Verifying the conjecture:

(For $(p, q) = (1299721, 7)$)

: $1299721 + 1 = 1299722;$
: $1299722*7 + 1 = 9098055;$
: $9098055 + 1 = 9098056;$
: $9098056*7 + 1 = 63686393;$
: $63686393 + 1 = 63686394;$
: $63686394*7 + 1 = 445804759;$
: $445804759 + 1 = 445804760;$
: $445804760*7 + 1 = 3120633321;$
: $3120633321 + 1 = 3120633322;$
: $3120633322*7 + 1 = 21844433255;$
: $21844433255 + 1 = 21844433256;$
: $21844433256*7 + 1 = 152911032793;$

: 152911032793 + 1 = 152911032794;
 : 152911032794*7 + 1 = 1070377229559;
 : 1070377229559 + 1 = 1070377229560;
 : 1070377229560*7 + 1 = 7492640606921;
 : 7492640606921 + 1 = 7492640606922;
 : 7492640606922*7 + 1 = 52448484248455;
 : 52448484248455 + 1 = 52448484248456;
 : 52448484248456*7 + 1 = 367139389739193;
 : 367139389739194 + 1 = 367139389739194;
 : 367139389739194*7 + 1 = 2569975728174359;
 : 2569975728174359 + 1 = 2569975728174360;
 : 2569975728174360*7 + 1 = 17989830097220521;
 : 17989830097220521 + 1 = 17989830097220522;
 : 17989830097220522*7 + 1 = 125928810680543655;
 : 125928810680543655 + 1 = 125928810680543656;
 : 125928810680543656*7 + 1 = 881501674763805593;
 : 881501674763805593 + 1 = 881501674763805594;
 : 881501674763805594*7 + 1 = 6170511723346639159,
 which is prime.