

# A candidate LLT-like test for proving the primality of Mersenne numbers, based on LLT-Cycles.

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This paper provides a conjecture:

**Conjecture 1 (Reix)**  $M_q$  is prime  $\iff S_{q-1} \equiv S_0 \pmod{M_q}$   
Where:  $S_0 = 3^2 + 1/3^2$ ,  $S_{i+1} = S_i^2 - 2$ .

This has been checked for all  $q$  prime up to M26.