

1116-11-1474 **Craig Larson*** (clarson@vcu.edu), 4106 Grace E. Harris Hall, 1015 Floyd Avenue, Richmond, VA. *Automated Conjecturing for Number Theory*.

We discuss conjectures of a open-source program designed to assist mathematical researchers in their investigations.

Some of these conjectures give bounds on $|\pi(x) - Li(x)|$ that seem to be stronger than von Koch's $\sqrt{x} \log(x)$ bound, bounds for the number of representations of an even integer as a sum of two primes, and upper bounds for the Merten's function.

Our hope is that the program makes novel and unexplored connections between number theoretic invariants, possibly overlooked by researchers, and inspires new investigations. (Received September 20, 2015)