

1067-Z1-1986 **Johann A. Thiel*** (jthiel2@math.uiuc.edu). *The behavior of Conway's RATS sequences.*

Given an integer base b and a positive integer n , let \bar{n} be the integer obtained by reversing the base b digits of n , and let n' denote the integer obtained by sorting the base b digits of n in increasing order. Conway's RATS (Reverse-Add-Then-Sort) sequences in base b are the sequences generated by iterating the function $f(n) = (n + \bar{n})'$, starting from some initial number n_0 . We discuss conjectures and results on the behavior of these sequences. (Received September 22, 2010)