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Jane M. Hawkins* (jmh@math.unc.edu), Mathematics Department, CB #3250, Univ. of N. Carolina at Chapel Hill, Chapel Hill, NC 27599. *Benford's Law: Detecting Fraud in Business Using Ergodic Theory*. Preliminary report.

Benford's Law is the observation that in many collections of numbers like mathematical tables or real-life data, the leading significant digits are not uniformly distributed, as might be expected, but are heavily skewed toward the smaller digits. Tax auditors and insurance companies use this to detect fraud. We discuss, using basic ideas in ergodic theory, what is behind Benford's Law, and give some applications to mathematical (and other) settings. (Received September 10, 2016)