1046-62-1542Greg Brockman* (gbrockm@fas.harvard.edu), 1145 Harvard Yard Mail Center, Cambridge,
MA 02138, and Sunil Abraham. Omnibus Sequences.

Consider locating words of length k as subsequences of a random string of length n. How large should n be in order to ensure with high probability that all k words are present, where a is the alphabet size? In this paper we consider necessary and sufficient conditions for such to occur, and we provide probabilistic and statistical analyses of their frequency. Efficient listings of words have been previously studied using universal cycles; however, the method we present requires a significantly shorter string to encode the same number of words. Several potential applications are presented. For example, this paper demonstrates how Tolstoy's War and Peace contains this abstract, or any other abstract of this length. (Received September 15, 2008)