

1014-N1-227 **Anne M. Burns*** (aburns@liu.edu), Department of Mathematics, Long Island University, C.W. Post, 720 Northern Blvd., Brookville, NY 11548. *Variations on an All-Purpose Algorithm*. Preliminary report.

First we present a recursive algorithm for assigning real numbers to a square matrix. Recursion can lead to surprisingly complicated and self-similar patterns. Next we show various graphical interpretations of the numbers in the matrix. By making color a function of the matrix entries we can produce a wide variety of images on a computer screen, from realistic looking imitations of forms found in nature to abstract designs for carpets, quilts and tapestries. Finally we will discuss modifications to the algorithm, methods for assigning colors, and other algorithms for creating visually pleasing patterns, both symmetric and non-symmetric. (Received August 28, 2005)