MATH 416, Spring 10, HW 5, Due May 6th, 2010

Implement the 4th level discrete Haar transform on the sequence $s = \{\sin(2\pi n/512) : n = 0, \ldots, 511\}$. In the resulting sequence, treshold (i.e., set to 0) all the coefficients with absolute value strictly below $\epsilon = 0.001$.

Repeat for $\epsilon = 0.01$ and $\epsilon = 0.1$, each time computing the compression rate (i.e., the ratio of non-zero coefficients in the Haar transformed sequence and the number of non-zero coefficients in the tresholded sequence).