CSE 490 GZ
Assignment 5
February 22, 2002

1. Consider 2-dimensional vectors with each coordinate having 16 values, 0 to 15. Let our training set be $X = \{(0,0),(1,1),(2,2),...,(15,15)\}$. (Note: let's assume that the rounding function rounds down on .5, for example round of 6.5 is 6.)

   (a) Starting with vectors $c(0) = (0,7)$ and $c(1) = (15,7)$ run the GLA algorithm until there is no decrease in distortion.

   (b) What happens to the GLA if the starting vectors are $c(0) = (0,15)$ and $c(1) = (14,1)$?

   (c) Run the GLA algorithm with the splitting strategy. When splitting a codeword c, create a new codeword $c' = c + (1,1)$.

2. Decode the following using the Burrows-Wheeler transform algorithm. $L = baaaaaa$ and $x = 3$. In the process compute the mapping T and it use in the decoding.