To demonstrate how the pieces work together, we can repeat our example:

>> alphabet = {'0' '1' '2' '3' '4' '5' '6' '7'};

>> p = [0.05 0.2 0 0.2 0.1 0.25 0.05 0.15];

>> [tree, tab] = hufftree(alphabet,p);

>> tab

tab =

val: {'1' '3' '5' '7' '2' '0' '6' '4'}

code: {'00' '01' '10' '110' '111000' '111001' '11101' '1111'}

>> message = {'1' '3' '3' '7' '1' '5' '4' '5' '1' '5' '5' '1' '3' '5' '7' '0' '6' '3' '4' '7'};

>> code = huffencode(message,tab)

code =

000101110001011111000101000011011011100111101011111110

>> decoded = huffdecode(code,tree)

decoded =

Columns 1 through 13

'1' '3' '3' '7' '1' '5' '4' '5' '1' '5' '5' '1' '3'

Columns 14 through 20

'5' '7' '0' '6' '3' '4' '7'

>>