```
% sampleRate/2 is the max frequency for any rate
% INPUT:
% snd: sound data as a vector of doubles in [-1,1]
% percents: a vector of even length where every two numbers define a range and the
% range is from [0,1]:
%   E.G. percents = [.001 .1 .2 .3] defines two ranges, .1% to 10% and 20%
%   to 30%
% weights: a vector of poisitive real numbers to scale the ranges by where
% the nth weight scales the nth range
% sampleRate: the sample rate of snd
function st = multibandEQ(snd, percents,weights, sampleRate)
    y = fft(snd);

   % find the indexes into the sound file of the ranges
   index = floor(percents(1:length(percents))*length(snd));
   j = 1;
   for i=1:2:length(percents)-1
      % scale the jth range by the jth weight
      y( index(i):index(i+1) ) = y( index(i):index(i+1) )*weights(j);
      j = j+1
   end
   plot(real(y));
   % recovering the sound from ft space, now with certain frequencies
   % diminished
   st = real(ifft(y));
```