```
1\, % plots the difference between a given song and the version of the song
 2 % scaled by fac
 3 % INPUT:
 4
   % vec: a vector of notes to be interpreted as a song
 5 % fac: some positive real number to scale the length of the song by
 6
   % fac should be a power of 2 for best musical results
 7
   function y = plot_diff(vec, fac)
 8
       n = length(vec);
9
      t1 = (1:fac:n*fac);
10
      t2 = (1:fac*n);
11
12
     plot(t1, scale_song(vec, 1), 'x', t2, scale_song(vec, fac), 'o');
```