```matlab
1    % returns an array of ints where the length of the result is
2    % fac longer than the length of the input and the extra ints in the result
3    % are interpolated from in between the ints in x.
4    % In other words, this function does song/note interpolation
5    % INPUT:
6    % x: vector of notes
7    %fac: factor to scale by
8    function song = scale_song(x,fac)
9        inter = [1,length(x)]-1;
10       %inter = [0,1];
11       % the number of points we want in the result
12       p = floor(length(x)*fac);
13
14       % taking the interpolated function of the original points and rounding
15       % to integers and also making sure we stay positive
16       song = abs( round( dftinterp(inter,x,p) ) );
17
```