1. Indiana Speech: Listen to hw5_1.wav and transcribe the sections in **bold only** using narrow transcription. The underlined part is not required, but serves as a bonus.

   **He always took me out and had me swing the bat and**

   **throw a baseball and everything.**

   **When I was nine I started playing little league** and ever since ... been

2. Formant Extraction:
   
   (a) Load your hVd vowels from HW4 in the Praat objects window.  
   (b) Concatenate (recoverably) all of your sound files (which automatically creates a textGrid).  
   (c) Add an interval tier and label it ‘word’.  
   (d) In the ‘word’ tier, set boundaries at the beginning and end of each vowel (according to your own criteria—try to be consistent).  
   (e) Label each vowel with the appropriate IPA symbol in broad transcription and also label the number of the token (either 1 or 2). For example, for the second utterance of “had” you would label the interval ‘æ2’.  
   (f) Add a point tier and label it ‘midpoint’.  
   (g) Locate the midpoint (or steady state) of each vowel and add a boundary in the ‘midpoint’ tier.  
   (h) Extract the F1 and F2 values of each midpoint and save them in a spreadsheet (your spreadsheet should have the following column headings: word — vowel — utterance # — F1 — F2).  
   (i) Plot the vowel formants using your favorite graphing program. You can use the scatter plot function in Excel—instructions are available on the lab website. Remember to reverse the values on the x and y axes so it resembles the vowel chart we usually see.  
   (j) Turn in the spreadsheet with formant values and the plot.