Construct a Markov Chain to generate a music sequence analogous to the method I demonstrated in class. You may want to vary either pitch, rhythm, or both in your example. You may want to use a 1st, 2nd, or arbitrary order model. Your MC should be represented through a transition probability matrix and an initial state distribution. Generate a random sequence from your MC and play the sequence using the “playit” function I have demonstrated in class. (The version from `markov_trans_synth.r` accommodates both pitch and rhythm, while the more basic function from `chromatic_wanderings.r` only handles pitch. Be prepared to play your example in class on the due date. Try to generate a model that generates samples that are musically interesting, in a sense that reflects your personal taste.)