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### **Weekly Report 9 due March 18, 2014**

This week I implemented a basic Markov chain algorithm for autonomous melody composition. The chain is based off of “Twinkle Twinkle Little Star” but would ideally be made up of many songs. The tempo and key are decided by pressing keys on the keyboard and then the algorithm starts generating notes. The IR sensor reading alters the tempo while the color detected by the webcam alters the probabilities of the duration of the notes played. I still need to implement a more accurate timing method, fix the start of the sequences, and get the algorithm to work again after stopping it using the keyboard. I also plan to expand my Markov chain with more example songs and implement a more complex algorithmic composition algorithm.