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CS-410 Operating Systems
April 4, 2025
Lab 2 – Bell Choir: Brief Description

For the second Operating Systems lab called “Bell Choir”, we were tasked with playing music from our computers using some pre-built Player and Tone classes. Our task was to create a Conductor class that controlled a choir of Player instances, read notes from a file, and directed the Player instances to take turns playing the notes based on the notes they were assigned. On top of that, we were tasked with detecting invalid files and returning proper error messages based on the violations committed by the files.

My solution to Bell Choir meets the requirements by creating a thread for the Conductor class and each instance of the Player class. Then, the Conductor class reads the file argument and returns input based on the file given. If the file is valid, it will play the song all the way through, each Player playing its own assignment and then giving up its turn until it is called on again. Otherwise, the Conductor class returns error messages according to the Exception thrown by the loadNotes() method. I have also written my own song to be played by the Bell Choir, which is the traditional Christmas song “Good King Wenceslas.” This is all compiled into the required Ant build, which I will demonstrate in class.

My biggest struggle with this assignment was the same struggle I encountered with the Juice Bottler lab, which was multithreading. In Juice Bottler, I created a bunch of threads but never let them acquire anything, which is something I worked hard not to replicate in Bell Choir.