

# Student Question: Lab 3 nd to el

I thought I understood this in the lab session, but I guess not. I am confused on keeping track of the time when converting from notes to events. For example, I am confused on how the nd in the second part of the picture converts to the el in the top part. Why would the bottom 2 off statements in the top half of the picture not be 480 but are instead 0?

```
UNIX> mconvert C-Major-MEF.txt tmp.txt E
UNIX> cat tmp.txt
CS302-Midi-Event-File
ON 0 60 64
ON 0 64 64
ON 0 67 64
OFF 480 60
OFF 0 64
OFF 0 67
UNIX> mconvert C-Major-MNF.txt tmp.txt N
UNIX> cat tmp.txt
CS302-Midi-Note-File
NOTE 60 64 0 1
NOTE 64 64 0 1
NOTE 67 64 0 1
UNIX>
```

## Student Answer:

I'm lost as well, but as i understand it, the first OFF event starts 480 after the previous ON. As such, the next OFF events start immediatly after the first OFF event. If they were both 480, then that would mean that would mean the they OFF events start a second after the first note, which obviously is wrong.

## Dr. Plank's Comment:

Nice answer. Think of it this way -- the N files list the notes as you'd look at them objectively -- all three starts at time 0 and last for a second. The E files are more like what your electronic instrument would see while it's "playing" the file: Start the first three notes "now", then wait 480 cycles, then turn off note 60, then wait no time, and turn off notes 64 and 67.

If you're working on these files musically, the N format is much easier to deal with. However, when it gets sent to your instrument, the E format is more like what gets sent.