How To Record
A Quick Overview

by Bryan J. Lackey

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Lesson 1: Introduction, Setup, and Hardware And Software Basics

In the modern age, it's very easy to use our phones to take quick video or audio recordings of ourselves or others. This is useful enough and a great way to capture things quickly, however it often sounds less than convincing. It could be distorted, or "tinny", or just not well put together. If we want content we can present to the world in a more formal setting, we need to do better. In our current distance learning situation this would seem vital of course, but even as we return an increasing amount of music studio work and voice acting is being done remotely, by people working in the comfort of their own homes rather than going to expensive professional studios. Therefore learning how to record oneself and sound good becomes not only a useful tool for quarantine, but for the entirety of your performing life.

Learning to record is in many ways like learning to play a new instrument. It's a process that is best served by constant experimentation and curiosity, and it can't fully be taught in four or five remote lessons. However, the basic principles are easy. Over these few lessons we'll discuss terminology, hardware, the basics of microphone placement, and how to do simple effects and editing of what you record. Each lesson will have a short project that will require you to submit a few different recordings, and often answer a few written questions as well.

Through these lessons I have endeavored to use free solutions as much as possible, however microphones, software, and recording accessories all have a WIDE variety of options available. If you are able to purchase a better microphone, more advanced software, etc. I encourage to properly research your options first, and then do so when you are ready. That said, it's really amazing the results that can be had out of free software and the device that's already in your pocket.

Terminology

Let's define a few terms before we go on:

Digital Audio Workstation (DAW)-This is any software capable of recording sound, like something incredibly simple such as Voice Recorder for Android, all the way up to complicated, professional use programs such as ProTools and Reason. Some software is more focused on recording while others are more focused on creating loops and synthesized sounds. Examples include Voice Recorder, Audacity, Garage Band, Logic, Reason, Fruity Loops, ProTools, n-Track Studio, Reaper, and Ardour, among many others.

Microphone-a device that turns sound into electrical energy so that it can be amplified, recorded, manipulated, or all of the above. Microphones use different technologies to make their magic happen, which will be discussed below. The microphone most familiar to you is probably the microphone in your cell phone, while other common microphones include the Blue Yeti and the Shure SM57 and SM58. If you are interested in further information about microphones, https://ledgernote.com/columns/studio-recording/microphone-basics/ is an **excellent** introduction to the subject.

Gain-Every microphone draws a different amount of power and sends a different strength signal into your DAW or amplifier. Gain is the name for the power boost you can provide either through software or hardware to increase this.

Latency-the lag time between when something makes a sound and when it's actually recorded or heard. Usually when discussing digital recording latency is measured in milliseconds, with devices having anywhere from tens of milliseconds of latency all the way to a few hundred. Software can compensate for this very easily these days, but it is an important concept to be aware of.

Menu notation

Throughout these lessons, commands in menus will be indicated with arrows for each sublevel, so for example File→Save→Save As means click (or tap if on mobile) the File menu, then click Save, and then click Save As.

Keyboard Notation

Keyboard shortcuts will be indicated with a + sign, i.e. Ctrl+X means hold the Ctrl key and then hit X.

Getting Started

The first thing to do is make sure that we have hardware and software we can use.

If you already have a microphone, skip down to "Installing the necessary software" below. This section will explain how to configure your cell phone as a microphone.

If you already have DAW software you prefer, skip down to "Software basics" below. The next section will cover installing recommended software for Windows, Android, and MacOS/iOS, and how to get started if you're on a Chromebook.

Using Your Phone As A Microphone

If you have an android phone, the easiest way to make this happen is to install Wo Mic on both your phone and your computer. Start by searching for "Wo Mic" in the google play store, and then follow the directions here- https://wolicheng.com/womic/ If you have a chromebook, use the linux instructions here- https://wolicheng.com/womic/wo_mic_linux.html

You can use your phone as a microphone over both USB and wifi. If you want to connect over USB, you'll need to "Enable USB debugging" on your phone; a google search for your phone model and "enable usb debugging" will give you instructions. If you want to use your phone as a wireless microphone, make sure that both your phone and the computer you're recording on are connected to the same Wifi network.

If you have an iphone, Von Bruno Microphone is a good choice. This video, https://www.youtube.com/watch?v=hsVcHnJ9Sys provides a very good simple tutorial.

Installing the necessary software

This tutotrial will cover only Audacity for Windows, Linux, and ChromeOS, n-Track Studio for Android, and GarageBand for Mac and iOS. You are welcome to use any other recording software you wish, and the basic principles are the same for all of them. If you do use different software than Audacity, n-Track Studio, or GarageBand, please let me know in advance so we can arrange the best way for you to turn in your work. Please note that extremely simple programs that offer no multitrack or editing capability, such as Voice Recorder, are NOT acceptable for use.

If you are on a Windows system, install audacity from https://www.audacityteam.org/download/
If you are using an android phone or tablet, search for n-Track Studio in the Google Play store. There are both free and paid versions; the free version has more than enough functionality for the purposes of what we'll be doing in class.
If you are using a Mac or an iPhone, download GarageBand from the App Store.
If you have a chromebook, this video, https://www.youtube.com/watch?v=YleB11Xipmo will describe how to install audacity.

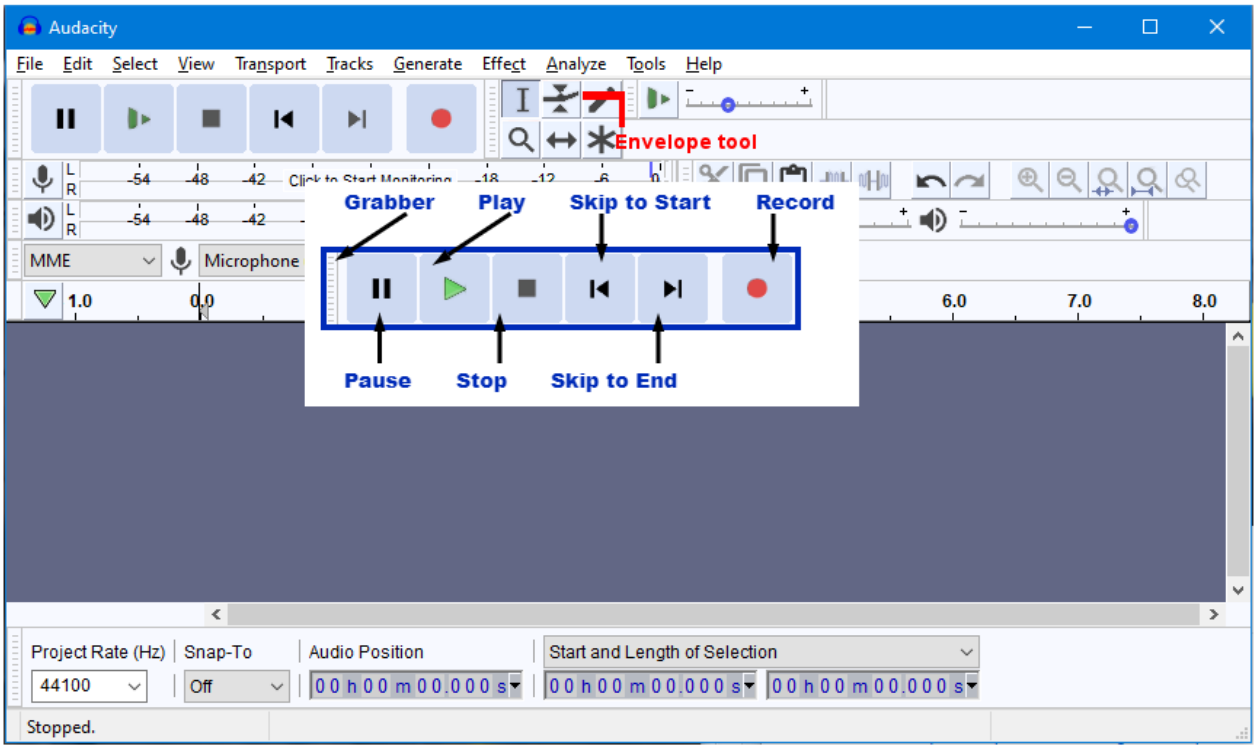
Once you have installed the necessary software and set up your microphone, we can begin learning how to record.

<u>Software Basics</u>

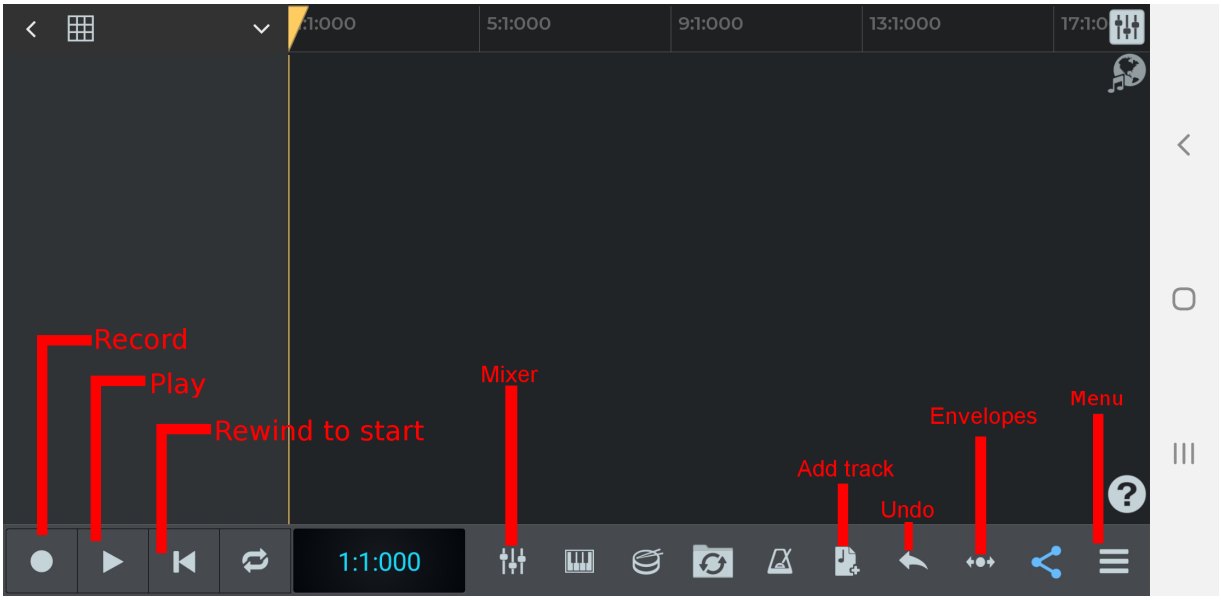
Launch the recording software of your choice. In most DAWs similar icons mean similar things.

- Triangle pointing right-play what you've recorded
- Triangle pointing to the right with a line/Triangle pointing to the right with a line-jump to the end or beginning of the song, respectively.
- Square-stop recording or stop playback
- Circle or red circle-begin recording. Whether this means make an entirely new recording or appending the recording to what's already there varies in each DAW and by what settings you've selected.

Audacity



n-Track Studio:



GarageBand

Much like in other software, you'll need to create new files from time to time, open projects you've previously worked on, and save your work regularly. In most DAWs, however, simply saving will save the entire project in a proprietary format. To create a simple audio file that can be widely read in other programs, you'll need to *export* the audio.

In Audacity, File→New will create a new project. File→Open will open a previous project. The save command is File→Save Project→Save Project (or Save Project As). To export, use File→Export→Export as your choice of file format.

In n-Track Studio, tap Menu→New song to create a new song. Menu→Open song will open previous work. To save, tap Menu→Save Song/Export and choose your option from the dropdown. n-Track Song (sng) format will save your whole project, while the different Audio mixdown options will save a single audio file.

In GarageBand, tap Navigation button→My Songs→+ in the upper right hand corner to create a new song. By default your song will only be eight bars long, so usually you'll need to tap the + icon on the far right of the screen to access the Song Sections menu, tap the first section (probably labeled "Section A", and tap the slider for Automatic. Your progress will be saved automatically as you make changes. To export your song, Navigation button→My Songs, then long press on your song and scroll the menu down to Share. Select Song and then choose your format options.

Undoing Mistakes

If you need to undo an action, **in Audacity** hit Ctrl+Z or click Edit→Undo. In **n-Track Studio** tap the undo button (left pointing arrow) in the bottom button bar. **In GarageBand**, tap the undo button (left pointing arrow) in the top button bar.

Lesson 1 Project

You will record a few simple examples and turn them in for credit to familiarize yourself with the very basics of your DAW of choice. You'll also answer a few written questions.

Click the record button and record yourself saying a few words. Click the stop button to stop recording, and then click the play button to hear yourself. Save this project as "[Your name] Lesson 1 recording 1". Create a new project and record the same thing again, but this time try standing back a few feet from your microphone. Save this as "[Your name] Lesson 1 recording 2" Do you notice any difference?

Now try playing a simple example such as a scale with your instrument. Try playing the same scale in as close to the same way as possible several times, using different microphone placement for each. Try recording in different rooms in your house, if you are able to do so. Save each of these as a separate project. What setup gives you the sound that you're happiest with? Why?

Lesson 2: Basic editing and effects

Now that you have a working recording setup and know the basics of the program layout, this next lesson will teach you about the basics of editing what you've recorded. Some concepts here will carry over directly from word processing software that you might be familiar with, while some, especially the effects, will be new.

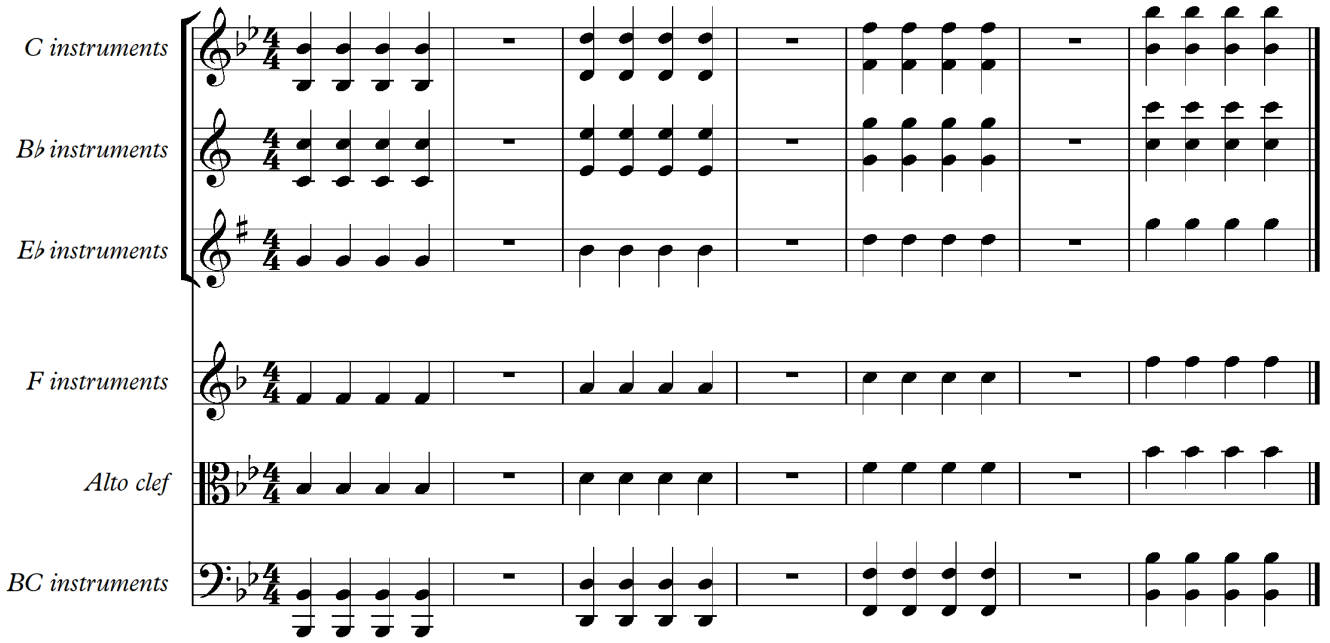
Just like a performance usually tends to involve multiple instruments, recording usually tends to involve multiple *tracks*. Each track is one recording-usually though not always one instrument or one part-and multiple tracks played at the same time give the entire performance. You can have multiple tracks that are different from each other, or identical tracks that are copied and pasted from each other, which can be useful in situations we'll explore below.

Different DAWs have different limitations on how many tracks they can create at once and hold overall in a particular recording project. Of the programs covered in these tutorials, **Audacity** can handle effectively unlimited tracks, but can only record one at a time. **GarageBand** can have up to 32 tracks, per song and record up to eight live sources and one virtual instrument at once, but has limitations on song length. The free version of **n-Track Studio** supports up to eight tracks per song, while the paid version supports many more. All of this will be sufficient for completing the tutorials and most of the playing assignments you will given throughout the year, however as you explore on your own you may begin to outgrow these limitations and need more powerful software.

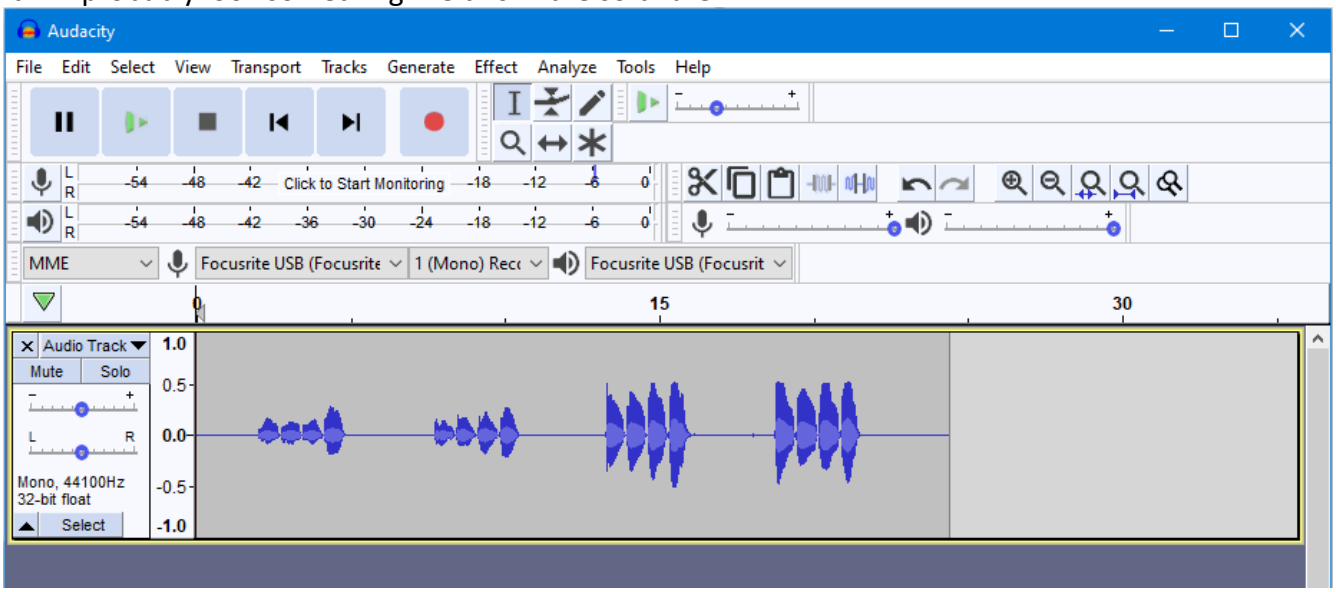
Lesson 2 Project

You will record a simple musical example and manipulate it with cutting, copying, pasting, and basic effects.

Open your DAW and record the following musical example on your instrument. Use the microphone placement you decided you liked best in the first lesson. You only need to play the example once in the most appropriate octave for your instrument.



It will probably look something like this in the software-

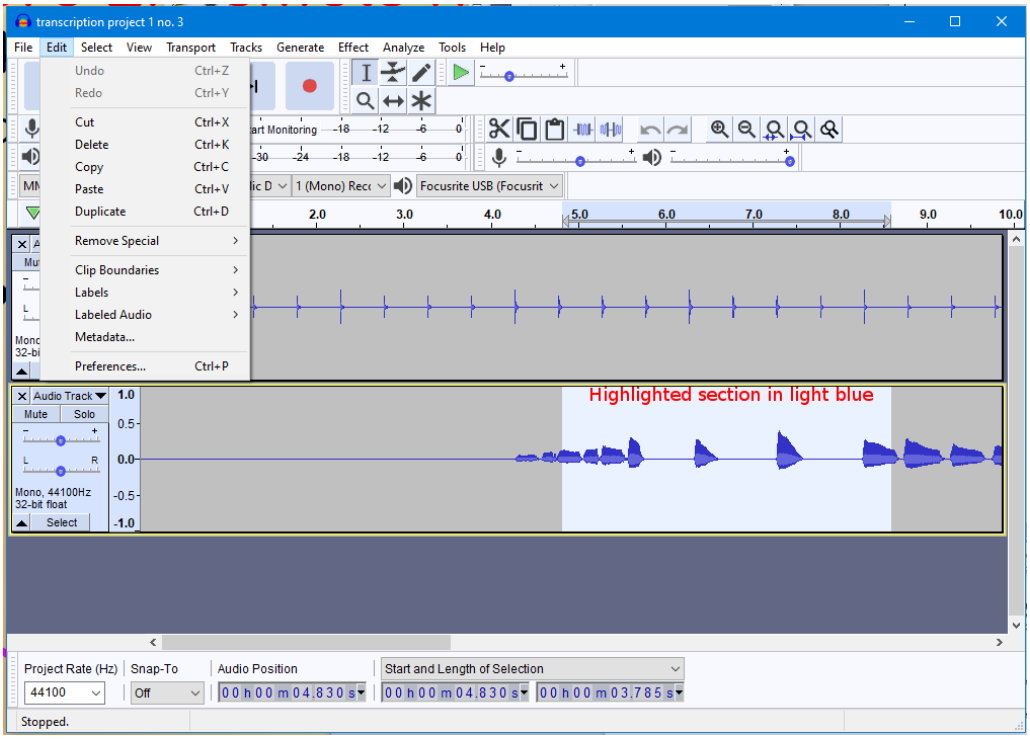


What you see in the track is a visual representation of the waveform of what you played. Each peak usually represents a note. If you see very small peaks at the beginning and the end of the track, that means you have background noise in your recording space that you'll want to address as much as possible. Turn off fans, close windows if there's traffic noise, etc.

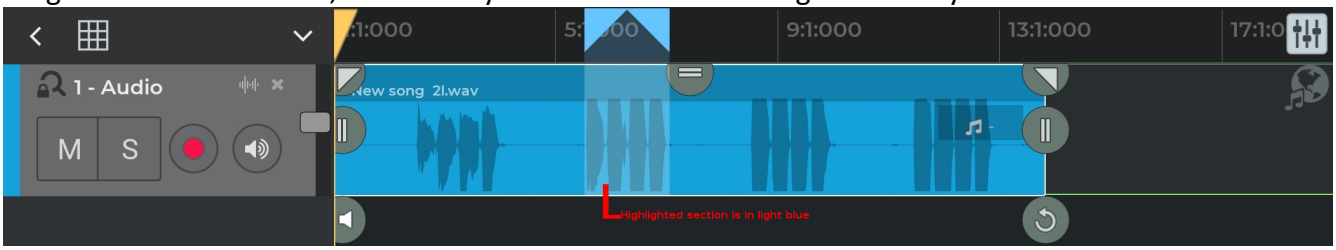
Selecting sections

Once you have a recording, you'll probably want to manipulate it in some way. The first basic operations are selecting, cutting, and copying & pasting.

In Audacity, you can highlight a particular chunk of a track simply by clicking the mouse and dragging until you've selected the desired amount. You can also input the start and length of your selection directly in the input boxes at the bottom of the window.



In n-Track Studio, the process of selecting is a little more complicated. You'll always need to press above the tracks, in the timecode bar, and drag to make your selection. However, if you have more than one track in a particular song, you'll need to double tap that track first to zoom in, then tap and drag on the timecode bar, otherwise you'll select the same region in every track.



In GarageBand, you can either select entire tracks or split pieces of tracks (see below) by tapping on them.

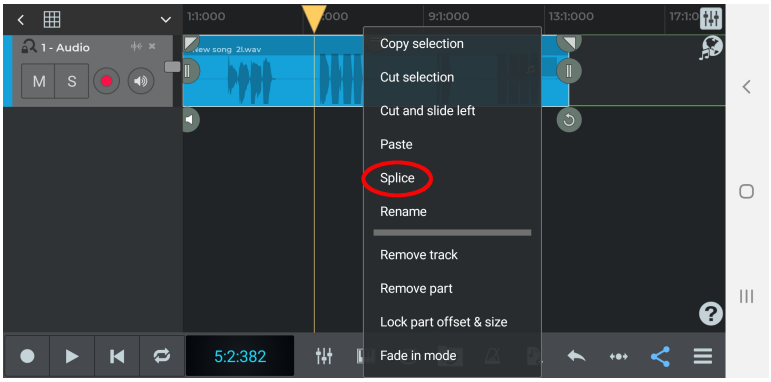
Cutting, Copying, And Pasting

Cutting a selection will remove that particular chunk of sound and allow you to move it elsewhere. **Copying** a selection will leave the original intact, but allow to have that same selection elsewhere (or several elsewheres) in your song. **Pasting** will actually put your selection in a new place.

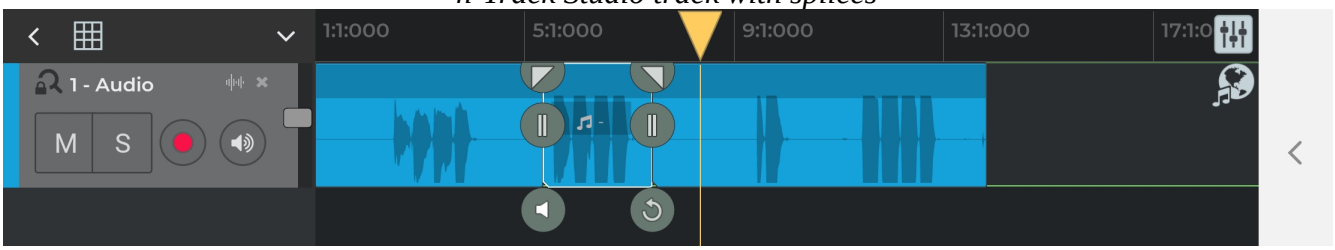
In Audacity, Cut, Copy, and Paste are all in the Edit menu. Your life will be much easier, however, if you learn the keyboard shortcuts: Ctrl+X for Cut, Ctrl+C for Copy, and Ctrl+V for Paste. Once you've made your selection and cut or copied it, click anywhere in your track to paste it.

In n-Track Studio, once you've made a selection, tap on that selection to bring up the edit menu. Once you've cut or copied your selection, drag the yellow slider to where you want to paste, then long press to bring up the menu. You can paste from here.

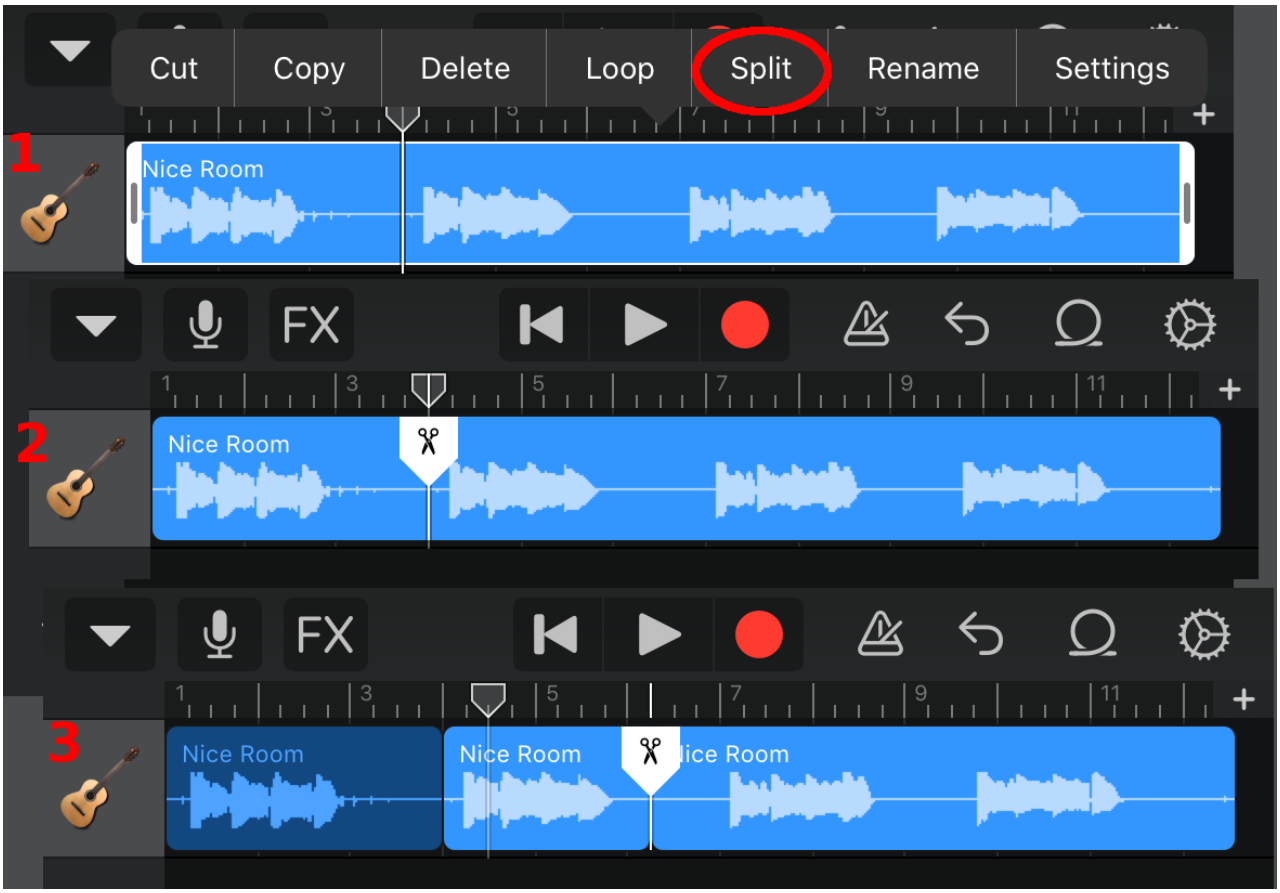
Also in n-Track Studio is the *Splice* command, which is how you apply operations to just a portion of the track (as opposed to simply highlighting a section). The Splice command splits a track into multiple sections, even though it doesn't change playback in and of itself. To splice, drag the yellow timeline cursor to where you want to start your split, long press, and select Splice from the menu. Most of the time you'll need to create two splices-one at the beginning of your section and one at the end-to isolate the portion of the track you want.



n-Track Studio track with splices



In GarageBand, similar to n-Track Studio, is the *Split* command, which is how you apply operations to just a portion of the track (as opposed to moving an entire track). The Split command splits a track into multiple sections, even though it doesn't change playback in and of itself. To split, double tap a track or section to bring up a menu, then tap Split. This will make the split (scissors) tool appear on the track. Drag the scissors left or right to where you want to start the split, then slide the scissors down to begin the split. Most of the time you'll need to create two splits-one at the beginning of your section and one at the end-to isolate the portion of the track you want. Cutting, copying and pasting are in the same menu as Split.

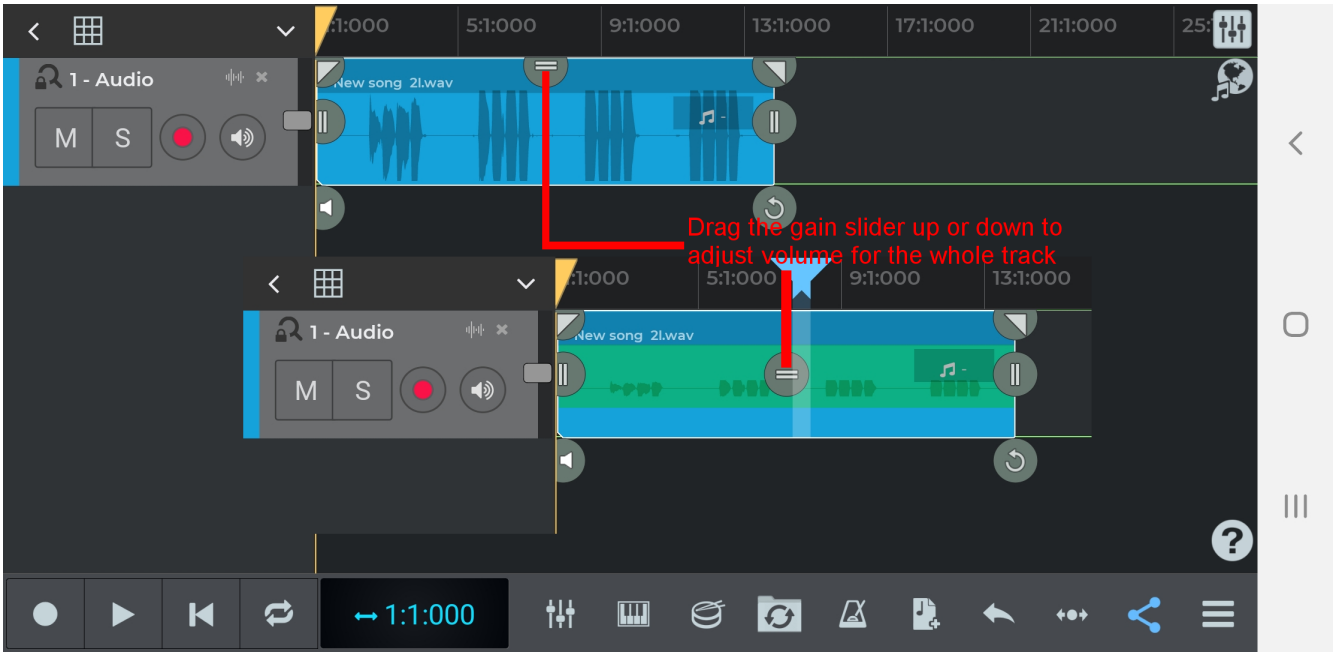


In your project, select the last measure of the exercise. Copy it and paste it in one of the rests without overwriting any other notes. After that, copy and paste the same measure twice at the end of the song. Save your project as "[Your name] recording lesson 2 project".

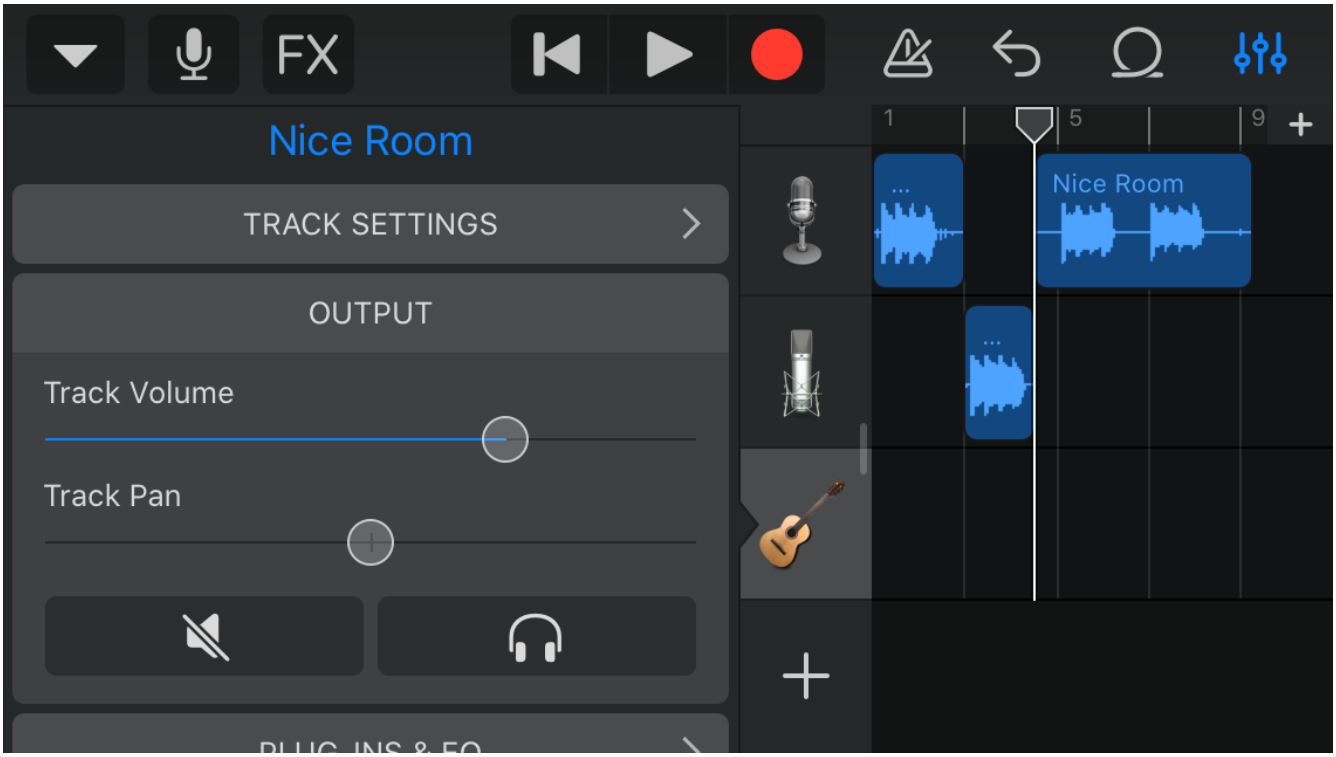
The next thing to talk about is changing the sounds you've recorded. This can be accomplished through a number of methods, but we'll start with adding *effects*. The simplest effect is a volume change for a track or selection, for example if you were too close or too far away from the microphone for a short time during your playing.

In Audacity, select a portion of a track that you want to adjust the volume for, then click on Effect→Amplify. A dialog box will come up, and entering a lower value or moving the slider to the left will decrease the volume of the selection, while moving the slider to the right or entering a higher value will increase the volume of the selection.

In n-Track Studio, the gain slider is the button with two lines at the top of a track or section. Adjusting the gain slider will change the volume for the entire track unless you create a splice first. You can also use an envelope to amplify or lower the volume, which is discussed in lesson 4. Tap the track or splice section to show the controls, then drag down the center button to adjust gain for the selected track.



In GarageBand, drag the left menu (where the track header icon for your track is) out into view. The slider is the gain slider for the entire track. To adjust just the volume for a split section, double tap on that section, tap settings, and then adjust the gain slider that appears.



Select the first measure of your project and amplify it to a noticeable level. You may need to amplify it a few times until you find the right volume level.

Beyond simple volume adjustments, there are a great variety of effects that can be applied to any given chunk of audio. Some will help make the audio sound more natural, some will correct pitch and harmony, and others will purposely add some kind of distortion to the sound. The two that you will probably use the most are *chorus* and *reverb**.***

You may notice that when you play back what you record that it doesn't have the same resonance in the tone or echo that you hear while you're playing your instrument. This can be due to a number of factors, but the main one is that most microphones that you'll work with are directional. They only pick up sound coming in from certain angles, and they don't pick up as much of the ambiance of the room. The result, especially for instrumentalists, is that we often sound "flat", not in terms of pitch, but in terms of having a "dead" or "dry" sound when we record. There are a number of ways to address that and add "life" back to the sound, but the easiest are with the chorus and reverb effects. Both chorus and reverb take the sound and essentially play a second, slightly delayed copy back at the same time. Chorus adds in slight pitch modulations to make it seem as if multiple instruments are playing the same part. Both of these effects recreate, to greater or lesser degrees, the experience of hearing not just the sound coming directly out of an instrument, but that **plus** the sound of all of the echoes of that instrument in the room.

Audacity only has a built in reverb effect. Select the portion of a track you wish to apply it to, then go to Effect→Reverb. You'll see many parameters that you can adjust or leave as their default values, and then click "OK". You can create a chorus effect by having multiple copies of the same track in your project. Multitracking is covered in lesson 3.

In **n-Track Studio** you have to apply reverb and chorus (and other effects) to entire tracks. Applying effects to parts of a track is somewhat complicated and will be discussed in the next lesson. Double tap on a track to zoom in. On the left side of the screen will be a button that says "ADD EFX". Tap on it, then tap the screen to bring up a list of effects. Tap reverb or chorus to add those effects. Much as in Audacity, you will have many adjustments to the effect you can make.

In GarageBand, you also need to apply effects, including reverb and chorus, to entire tracks, and applying effects to parts of a track will also be covered in the next lesson. Tap the settings wheel →Track Controls, then scroll down to Plugins & EQ. Tap Plugins & EQ→Edit, and then tap anywhere it says None. This will allow you to add new effect. Select Chorus or Track Reverb from the list, and you will have many different options for each.

As the final part of this lesson's project, apply reverb to your entire track. Experiment with changing the parameters until you find a reverb level that you're happy with. Save your project and submit.

Lesson 3: Multitracking And Basic Mixing

Becoming comfortable with working with one track at a time is just the beginning. Soon you'll want to work with multiple tracks at a time. This will allow to create with other musicians or simulate an entire ensemble yourself. It will also allow you to take the best parts from several performances of the same music and combine them into one high quality, finished product, use different effects, and more. If you are using n-Track Studio, multitracking will also be important for using effects on part of a song rather than the entirety of it.

To make sure you'll be able to work with multiple tracks successfully, you'll need to understand *click tracks* and *latency.*

A *click track* is effectively just a recording of a metronome, usually in its own track so it can be easily muted or deleted once recording is complete. Click tracks can be generated in a number of ways depending on the DAW.

In Audacity, the easiest way to create a click track is Generate→Rhythm Track. Audacity offers a wide range of customization options, including meter, pitch of the click, swing values, and more, but the most important options are "tempo" and "number of bars". You can also create a drum track in an external program (such as Hydrogen, for example) and import that track into Audacity.

In n-Track Studio there are also several methods. The simplest is to create a new track, turn on the metronome at the desired tempo, and then hit record and let your device record itself until you have sufficient length in your click track. You can also create a new *beat track*, then fill in the first square of the pattern. Click the metronome to adjust the tempo of this track.

In GarageBand, you can create a new track, turn on the metronome at the desired tempo, and then hit record and let your device record itself until you have sufficient length in your click track. You can also create a new *drum track*, then fill in the first square of each beat of the pattern. Tap Settings wheel→Song settings→Tempo to adjust the tempo of the song.

Working with multiple tracks is when latency first becomes an issue. As mentioned in Lesson 1, *latency* is the delay between when a performer makes a sound and when it's actually heard by someone or something else, be it another performer, an audience member, or the recording software. Modern recording software can compensate for latency very easily, as long as you know what your latency is.

In Audacity, Audacity's own guide at https://manual.audacityteam.org/man/latency_test.html offers very clear instructions to find and correct for your setup's latency.

In n-Track Studio, the program will automatically run a latency test upon installation and adjust settings that should be adequate for most purposes, unless you plug a separate USB interface into your mobile device. If you want to rerun the latency test, Tap Menu→Settings→Recording latency compensation, click the box with the current setting, and then click on the Go button.

In GarageBand, latency is usually automatically corrected for. You won't need to adjust anything for the purposes of these lessons.

Adding a new track to an existing project

In Audacity, pressing Shift+R or holding the shift key and clicking the record button will both start recording in a new track. You can also click Track→Add New→Mono track to add a new track, then make sure the new track is selected and click the record button (or hit R) to begin recording in the new track.

In n-Track Studio, tap the new track button to add a new track. For right now you'll want to add audio tracks most of the time.

In GarageBand, tap Navigation menu→Instruments to bring up the various options for new tracks. Most of the time you'll want to select Audio Recorder, and usually Voice rather than instrument as that will give you access to more options.

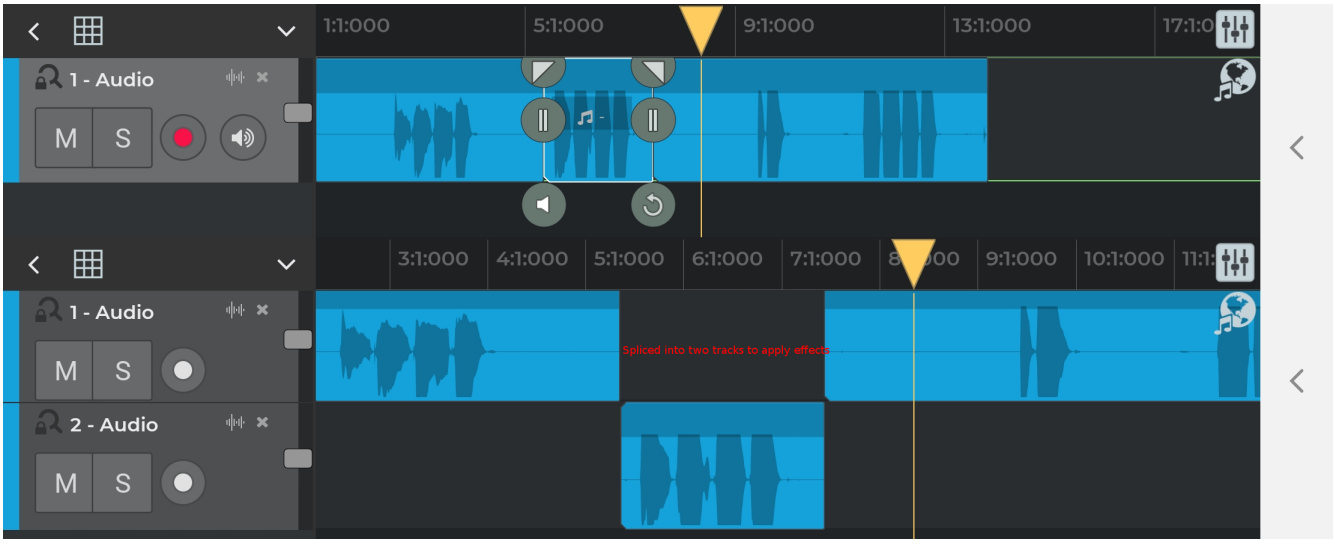
When you record multiple tracks, USE HEADPHONES to hear the previously recorded tracks rather than speakers. If you do not, your microphone will pick up the old playback on the new track and mixing will be much more difficult.

Mixing Vs. Mastering

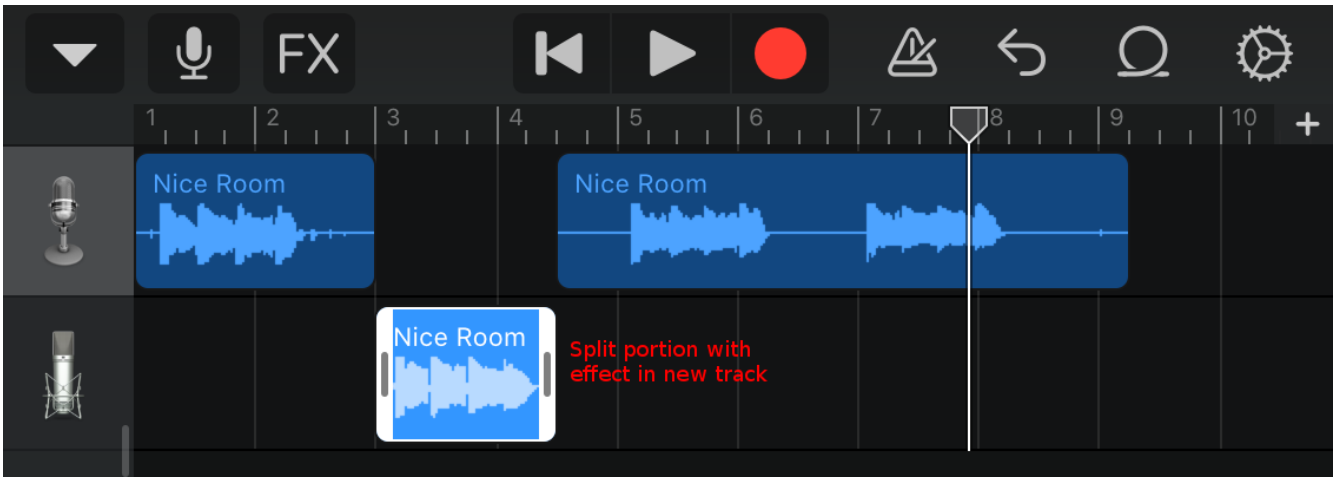
When discussing recording you'll often hear mixing and mastering brought up. The two are related, but separate concepts. *Mixing* is the process of balancing all of the instrumental tracks with each other by adjusting volume and eq (see next lesson), correcting timing, and adding any desired effects to each track. *Mastering* is the process of taking a set of mixed tracks and doing final adjustments to make the completed song sound good on many kinds of speakers in many kinds of environments. A complete discussion of mixing and mastering is well outside the scope of these assignments, however as you begin working with multiple tracks and adjusting them you are learning the basics of mixing.

Applying Effects To Part Of A Track In n-Track Studio And GarageBand

n-Track Studio can only apply effects, such as chorus and reverb, to entire tracks. To apply an effect to just a portion of track, create a splice section first of the track part you'd like to effect. Once you have done this, create a new audio track and cut and paste the splice section into the new track, making sure to drag it into the correct place in time. After that apply the effect to the new track.



GarageBand can also only apply effects to entire tracks. To apply an effect to just a portion of track, create a split section first of the track part you'd like to effect. Once you have done this, create a new audio track and cut and paste the splice section into the new track, making sure to drag it into the correct place in time. After that apply the effect to the new track.



Lesson 3 Project

Assignment 1

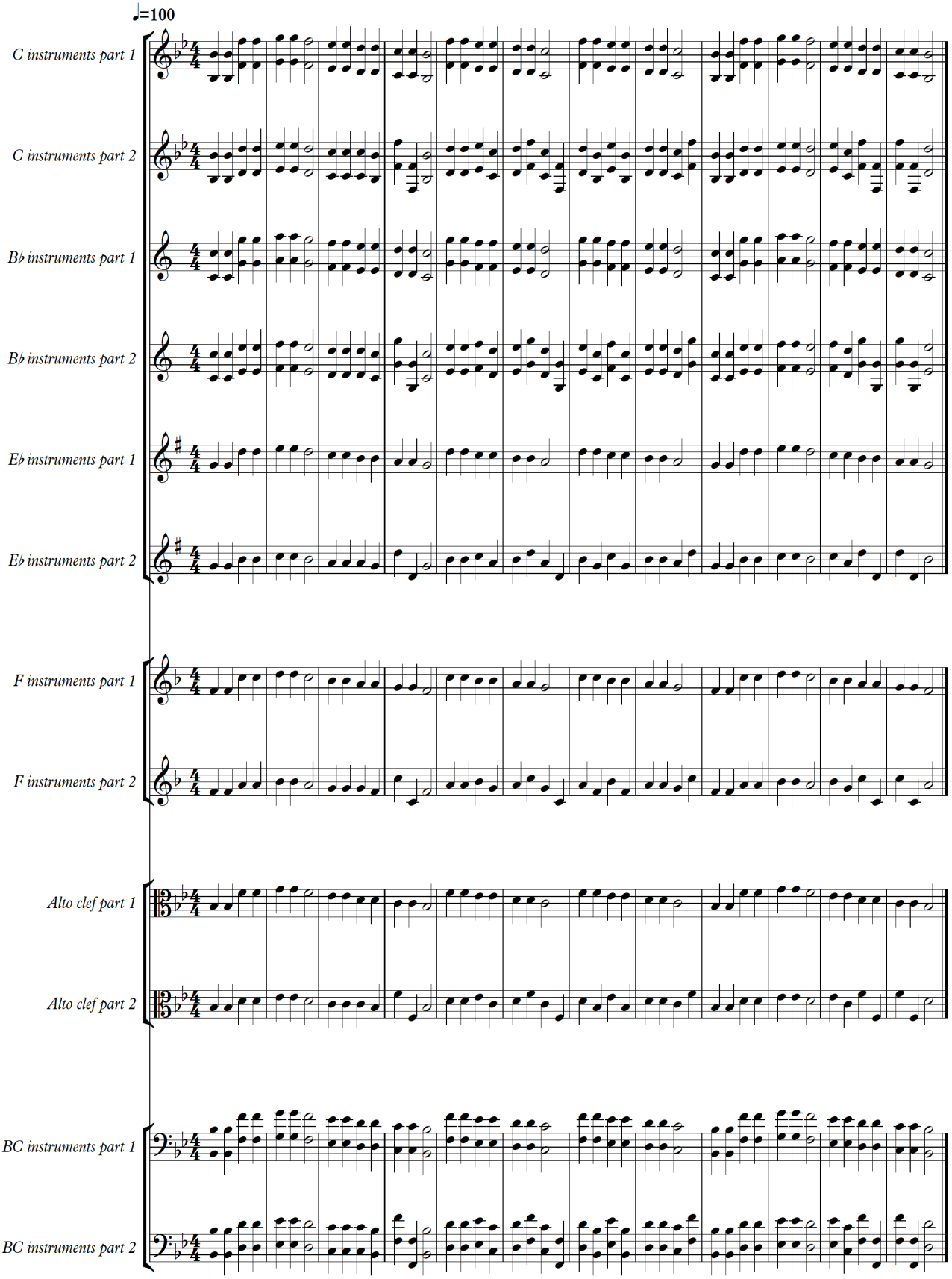
In your DAW, generate a click track for five measures of $\frac{4}{4}$ at 90bpm. Create a new track and record yourself playing the concert Bb major scale in quarter notes, repeating the top note, to the click track. The first measure of the click track will give you a four beat countin. Make sure that you use headphones for the playback so the recording doesn't pick up the click track as well.

Next, create a new track and record yourself playing four measures of half notes on a concert Bb. Play all the tracks back together. Adjust the volume in different ways on each of your component tracks to see what happens. Submit this as "[Your name] Lesson 3 recording 1"

Assignment 2

Create a click track for 12 measures of $\frac{4}{4}$ at 100bpm. Record each part of the following simple duet in a new track, which will give you three total tracks in your song. You only need to play each part once in an appropriate octave for your instrument. Use the volume adjustments for your DAW, as well as the chorus and/or reverb effect until the two parts are in good balance. Save your project as "[Your name] Lesson 3 recording 2" and submit.

Twinkle Twinkle duet



Lesson 4: Advanced effects (punchins, EQ, clipping, basic stero mixing, envelopes)

For our last lesson in this portion of recording techniques, we'll look at a few more advanced ideas that will allow to change your recordings more efficiently and put extra polish on them towards a finished product.

Punchins

"Punching in" refers to re-recording only a portion of a song, usually to fix a minor error such as a wrong note or late attack. This saves you the trouble of rerecording an entire track.

The safest way to do punchins is to create a new track, set the cursor a little bit before what you need to change, and then hit record. Once you are happy with your replacement part, cut and paste it into the original track over the mistaken part and adjust the volume on that section for a smooth blend. This is the only method that **Audacity** allows; recording with a track selected will always begin recording at the end of the track.

In n-Track Studio and GarageBand you can also set the cursor directly in your old track and record; this will overwrite anything in the track until you stop recording. Depending on how fast or slow you are at tapping the record button this could easily destroy valuable recording data beyond what you want to overwrite. But it is possible.

EQ

EQ is an abbreviation for "equalizer", and refers to the distribution of frequencies in a particular track or sound. Different software offers different numbers of eq bands, but in general there are bass (low), midrange, and treble (high) components.

In Audacity, select the region you want to modify and click on Effect→Graphic EQ... All of the sliders you see represent different frequency bands from lowest on the left to the highest on the right.

In n-Track Studio, eq needs to be set per track as with most other effects. Tap on the mixer button, then tap EQ and drag the blue control points up or down to adjust the eq in that range.

In GarageBand, eq needs to be set per track as with most other effects. Tap Settings wheel→Track Controls, then scroll the menu on the left of the screen to Plug-Ins & EQ. You can adjust basic eq with the sliders here, or tap Plugins & EQ→Visual EQ to bring up a much more detailed equalizer.

In the broadest sense you will usually want to accentuate the natural ranges of an instrument and minimize the frequencies that are out of the natural range, ie a trumpet would have a good amount of treble boost and lowered bass sounds, while a tuba would be just the reverse, but there are many exceptions to this and many interesting effects that can be created simply by adjusting the eq of different parts. Experiment and use your ears!

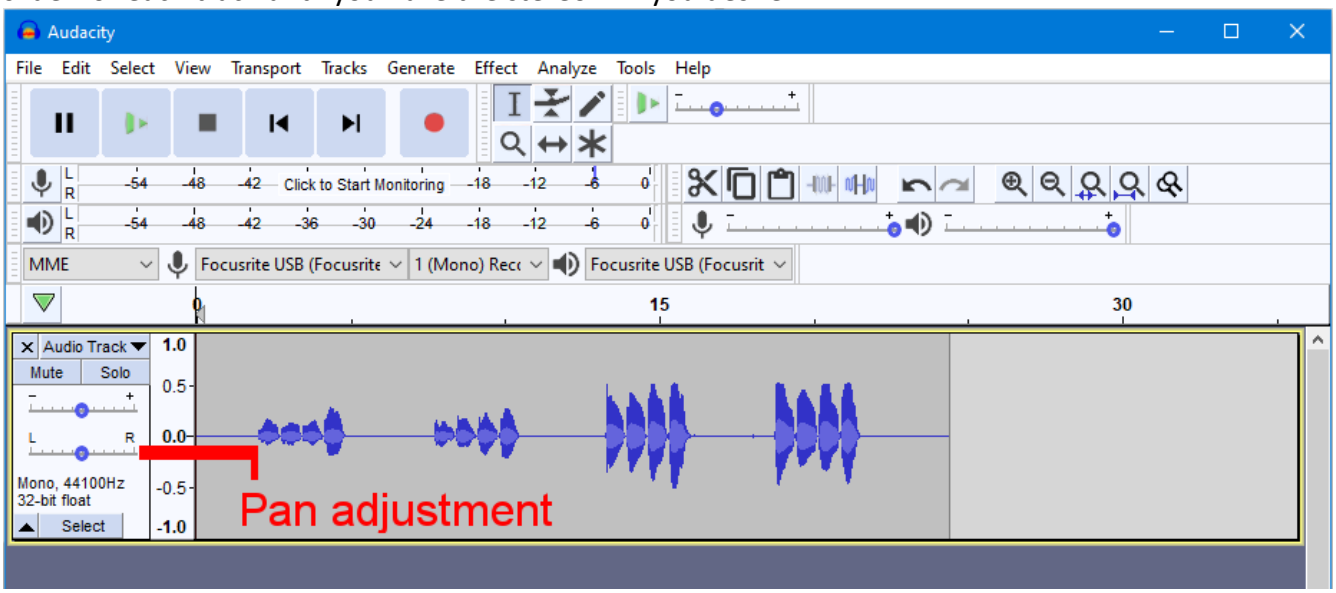
Clipping

Clipping is when the recorded sound is too loud for the microphone and it distorts when recorded. *Generally* clipping is bad and to be avoided. If you find that your recording is consistently distorted-

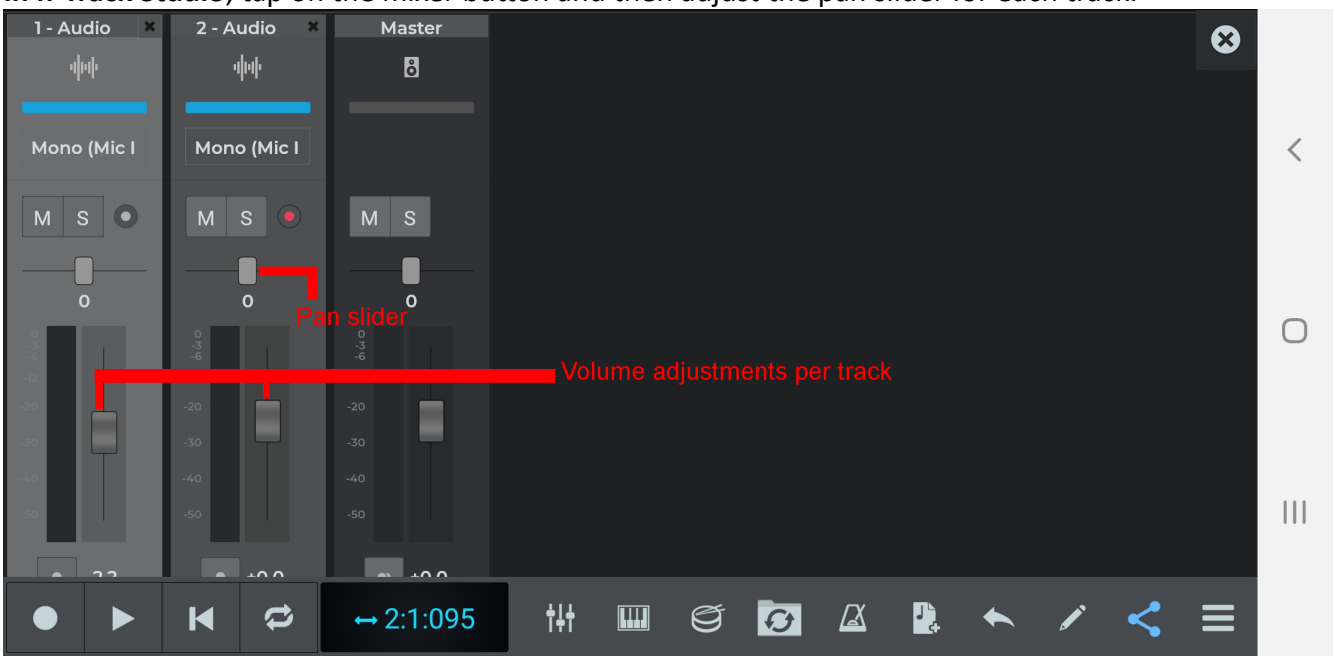
you'll be able to see it visually if your waveforms are mostly touching the top and bottom of the track pane, if you can't hear it-there are a number of possible solutions. The first is simply to play further back from the microphone, much like we did in lesson 1. The second solution is to adjust the *gain*, which is how much extra power your software or interface is giving your microphone. If you're using a USB microphone with volume control or a separate audio interface, turn the gain down until you get a level you're happy with. **In Audacity**, you can adjust the recording volume. **In n-Track Studio**, tap the mixer button and then adjust the volume slider until you find a recording level you're happy with. **In GarageBand**, there is no way to adjust input gain without using an external microphone. You'll need to adjust the physical position of the instrument relative to your device to avoid clipping.

Basic stereo mixing

You may have noticed in your years of listening to music that oftentimes different sounds will come out of the right and left speakers. This is *stereo* sound. Originally sound recording was only in *mono*, ie the same sounds coming out of every speaker. The level of right and left sound is referred to as *pan* or *panning.* Modern DAWs allow you to create stereo sound very easily. **In Audacity**, adjust the *pan* slider for each track until you have the stereo mix you desire.



In n-Track Studio, tap on the mixer button and then adjust the pan slider for each track.



In GarageBand, tap Settings wheel→Track Controls, and under Output is the Track Pan slider. Adjust it to the left or right to adjust the panning.

Envelopes

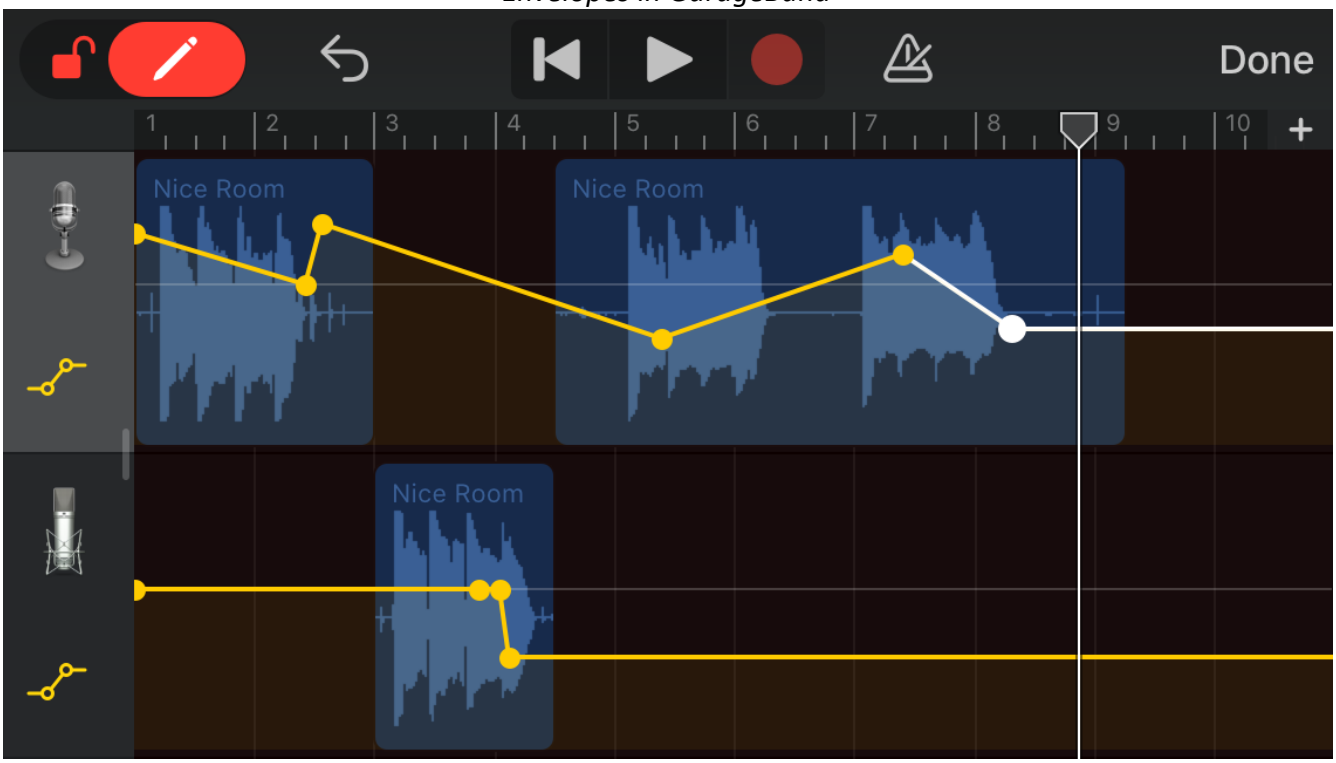
Envelope in music originally referred to sound properties for synthesizer sounds, especially the traditional ADSR envelope-**A**ttack, **D**elay, **S**ustain, and **R**elease. In a DAW context, usually envelope tools are used to create smooth volume transitions between one section or another.

In Audacity, click the envelope tool. Once the envelope tool is selected, each time you click in a track a new control point will be created. You can drag these control points up or down to adjust the volume, and Audacity will automatically create smooth volume transitions from one control point to another. You can have more or less unlimited control points in a track.

In n-Touch Studio, tap the tool the left of the share icon in the bottom bar and then tap Draw envelopes mode. You will see a green line in the current track. Each time you tap and hold you'll create a new control point, and as you drag those control points you'll draw the envelope that will adjust the volume of your playback.

In GarageBand, tap a track header icon, then tap Automation. In the upper left corner, move the pencil icon slider to the right to enable adding control points to your envelope. Each time you tap you'll add a new control point, and as you drag those control points you'll draw the envelope that will adjust the volume of your playback. Tap Done in the upper right hand corner when you are finished to resume other tasks in your song.

Envelopes in GarageBand



Lesson 4 Project

For lesson 4's project, we'll be adding to the duet you recorded in lesson 3. You'll submit several recordings, as well as answering a few written questions. Open the duet recording and save it again as "[Your name] lesson 4 recording 1". Add a new track to your project and record part 3 on the next page to create a trio.

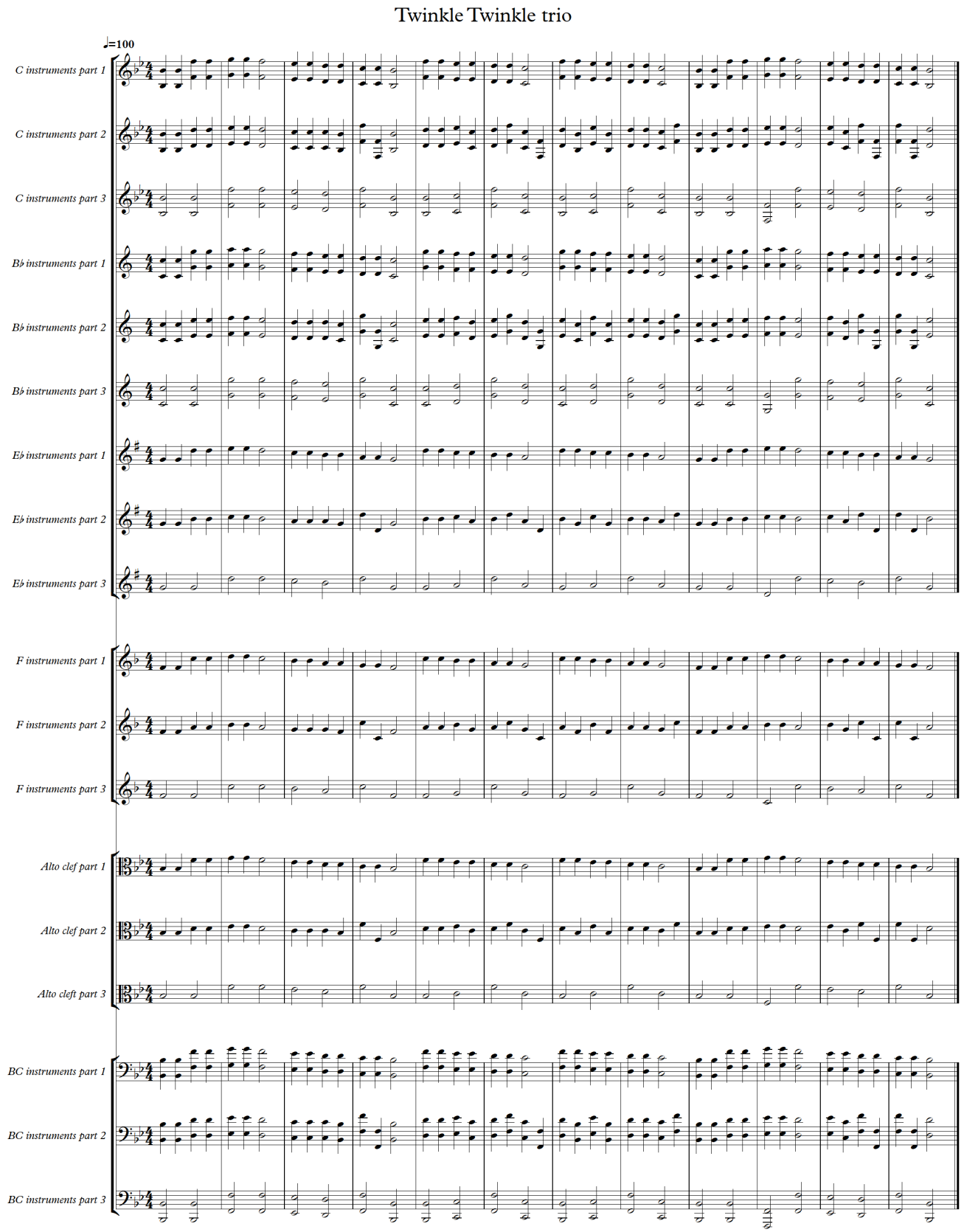
Adjust the pan of part 1 to entirely on the right. Adjust the pan of part 2 to entirely on the left. Leave part 3 dead center. Save this.

Adjust the pan of part 1 to entirely on the left. Adjust the pan of part 2 to entirely on the right. Leave part 3 dead center. Save this as "[Your name] lesson 4 recording 2".

Adjust the pan of all three parts until you find a mix that sounds best to you. Describe your settings. What about these settings sounds better to you? Save this as "[Your name] lesson 4 recording 3".

Use the envelope tool in three different ways, varying loud to soft, soft to loud, and in different parts. Submit each version as "[Your name] lesson 4 recording " 4, 5, and 6. Describe each version and what envelope you created. Which version sounds best to you?

Finally, for "[Your name] lesson 4 recording 7" use all of the skills you've learned to create the best sounding version of this trio you can. Adjust volume, EQ, and panning to create a complete audio experience. Describe what changes you made and why you like this version the best.


Twinkle Twinkle trio
♩=100
C instruments part 1
C instruments part 2
C instruments part 3
B♭ instruments part 1
B♭ instruments part 2
B♭ instruments part 3
E♭ instruments part 1
E♭ instruments part 2
E♭ instruments part 3
F instruments part 1
F instruments part 2
F instruments part 3
Alto clef part 1
Alto clef part 2
Alto cleft part 3
BC instruments part 1
BC instruments part 2
BC instruments part 3