Hello and welcome to this brief tutorial series covering our custom graphing and sonification tool called Glance!

Within this first audio clip I will give a short introduction to what Glance is, what it is designed for, what it can be used for, and some basic navigation!

In the next tutorial I’ll go more in depth and cover how to add or remove data from existing datasets and create your own datasets to be represented in both as graphs and sound as what we like to call sonification!

Finally, in the last clip, I’ll cover an example using one of our pre-made data sets to go through an activity!

Let’s get started with our first tutorial.

First, please feel comfortable to pause and start this tutorial at any time to proceed at your own pace. All of the website is accessible with tabbing and any of the screen-readers you may be experienced with and I invite you to freely explore it! If you arrive at a section that you do not understand, please be patient with the tutorial and I’ll arrive there eventually.

Our custom graphing and sonification tool is a web-based tool designed to allow people and students such as yourselves, to import, export, and modify datasets and then visualize them with visually friendly graphs or with using what we call sonification -- the transformation of data into sound!

Sound is a very intriguing way to be able to experience data. We might be able to hear certain trends far better than we could ever hope to see them especially with very complex or seemingly random data sets. Take for example data sets concerning the ocean, or weather, or even space!

Throughout these tutorials I’ll take you through data that’s simpler, of course, but that can’t stop you from using any kind of data that you want! As a side note, remember the more data there is, there is more processing that needs to happen. If you would like to use some very large data set and want to experience it with sound, I would highly recommend both importing the data and keeping patience. It may take awhile.

Only the landing page, the page we arrive at when first opening Glance, the first 4 buttons you will come across are “Load CSV”, “Create New Table”, “Help”, and “Return to Top”

“Load CSV” is for loading or “Importing” our data. What does CSV mean? CSV stands for “Comma Separated Values”. If you were to open any of the sets of test data that we have provided within a word processor such as notepad or word it would appear exactly as it sounds (Values separated by Commas). The values are listed exactly in the document as if they were a table with commas separating the values across a row and input into their individual columns, and new lines are to signify new rows. Following the format, the program does everything for you and can input your data quickly into Glance! We will be revisiting this feature the next tutorial.

“Create New Table” allows you to create your own custom table and start filling it out with any data you would like. We’ll be coming back to this in a moment.

“Help” provides you with a pane of various helpful information that covers the very basics of the program. Feel free to refer to this whenever you need!

“Return to Top” is simply a page refresh for easily returning to the top of this landing page!

Navigate your way back to “Create New Table” and press the button.

A dialogue window will now be available to you. In it are some general options for your new Table! First there’s a dropdown menu with the kind of graph you want as a representation. A note about this is that it will not change how you put in your data, only how it is visually represented. Some kinds of graphs may be easier to distinguish data than others. Bar graph may be the easiest of the bunch to see, and our default is “Line Graph”. Go ahead and change it to bar graph! Second is an input box for the number of rows. These are stacked like floors of a building. The default we have is 0 but we must have at least 1 row for there to be any room to input data. Third is an input box for the number of columns. You can think of these like the rooms on a particular floor! The default is 0 again, but we must have at least 2 columns for there to be any room for data. Note that we will be able to change the kind of graph, number of rows, and the number columns as we like so do not think that your choices here will be set in stone. At the bottom of the dialogue are the Cancel, Reset, and Submit buttons. I invite you to change the rows input box to 1 and the column input box to 2 now. When you are done, hit submit and welcome to the meat of Glance.

It may be a little confusing at first, because there is a lot to do on this page, but I will do my best to give you an overview of where everything is located!

The top bar should still be the same, with its “Load CSV”, “Create New Table”, and “Help” buttons, with a couple small additions! After reaching the help button, continuing to Tab will introduce a couple helpful navigation features!

We have “Jump to Table” which will bring us to the table’s options which include the addition and subtraction of rows and the data amongst other things.

Next we have “Jump to Audio” which will bring us to the audio options of how you want to hear the data represented.

Finally, we have “Jump to Data” which brings us to a couple of the data options and most notably, the place where we can change the color of a certain row’s data. It’ll provide you with some pretty cool information too such as the max, min, and average for a particular row’s data or even the entire data set!

After getting through these helpful “Jump to” buttons, one last option in the top row belongs to a drop down that will allow you to change what kind of graph you’re looking at! Remember that this is only for visual representation.

Moving on there are 2 seemingly odd sliders, that are for choosing which section of the data that you want to be sonified!

Moving forwards we come across Data Table. In other words the same section that we would have navigated to when using the “Jump to Table” button. Like I mentioned earlier, the data is all represented here. The topmost row is for the labels belonging to a particular column, and the leftmost column is for the labels belonging to a particular row.

Below the table we have row subtraction and addition buttons, as well as column subtraction and addition buttons. Alongside these we have a various array of commands including undo, redo, reset (which brings the table back to its default), a download button for the data you’ve made, and a print button containing an overview of the graph and the data included in it.

For just the time being, to become a little more familiar with this section as we will be using it a lot, in the 1 row by 2 column data spaces (which should be currently filled with Zeros), input any 2 numbers you would like and the graph will change along with the data it in real time!

Moving forwards on the page onto the “Audio Control” section, which can be accessed through the “Jump to Audio” button at the top of the page, we have options regarding the row in particular we would like to sonify, the speed at which we would like it to run, and finally the midi instrument we would prefer the sounds to resemble. Finally, we come across the audio controls for play, pause, and stop!

Feel free to press play to hear the data, the two numbers that we input from earlier, played out musically!

Moving forwards to the “Graph Data” section, which is the second to last section of options on the page and can be accessed with the “Jump to Data” button, we have the ability in the dialogue box to change the color of a particular row’s data to anything we like. Note that for color changing we can use your ordinary hex value such as #000000 for Black or we can just use the name!

We can also enable and disable a particular row so it is or isn’t shown using the checkbox next to the color dialogue box. This can be useful for when there are lots of rows and it becomes hard to distinguish a particular one!

Finally at the bottom of the page in our last section of options called “Change Background Color”, we have dialogue boxes to change the site’s background, the background of the graph, and even the text color. Alongside each of the dialogue boxes is our “High Contrast” checkbox. By checking it, it will automatically change some of the other colors of the website to provide a high contrast for easier visibility! Note that when changing any of the color options, a color choice without concern for high contrast will receive a popup warning you of such!

That’s all there is! In this tutorial, we went over what Glance is, what it was designed for, what it can be used for, and all the basic navigation and tools available to you!

In the next tutorial I’ll go more in depth and cover how to add or remove data from existing datasets and create your own datasets to be represented both as visual graphs and auditory Sonification.

Thanks for listening, talk to you again soon!