Instructions:

Evaluate the homework against the outlined criteria in the below rubric, assigning a rating to each criterion. Add points earned across all criteria and convert the total points to a letter grade, assigning a "+" or "-" letter grade designation at your discretion.

A (+/-)	55+	C (+/-)	25-39	F (+/-)	<10
B (+/-)	40-54	D (+/-)	10-24		

Notes:

The assignment utilizes **Plotly** to complete the challenge. The source code should also be deployed to Github or Gitlab.

Rubric for Belly Button Biodiversity:

	Mastery 20 points	Approaching Mastery 15 points	Progressing 10 points	Emerging 5-0 points	Incomplete
Bar Chart	✓ Chart initializes without error ✓ Chart updates when a new sample is selected -AND- Chart uses all of the following: ✓ Top 10 sample values as values ✓ otu_ids as the labels ✓ otu_labels as the tooltip	✓ Chart initializes without error ✓ Chart updates when a new sample is selected -AND- Chart uses 2 of the following: ✓ Top 10 sample values as values ✓ otu_ids as the labels ✓ otu_labels as the tooltip	✓ Chart initializes without error ✓ Chart may not update when a new sample is selected -AND- Chart uses 1 of the following: ✓ Top 10 sample values as values ✓ otu_ids as the labels ✓ otu_labels as the tooltip	✓ Chart may not initialize ✓ Chart may not updates when a new sample is selected -AND- Chart uses 0-1 of the following: ✓ Top 10 sample values as values ✓ otu_ids as the labels ✓ otu_labels as the tooltip	No submission was received -OR- Submission was empty or blank -OR- Submission contains evidence of academic dishonesty
Bubble Chart	✓ Chart initializes without error ✓ Chart updates when a new sample is selected -AND- Chart uses all of the following: ✓ otu_ids for the x values ✓ otu_ids for marker colors ✓ sample_values for the y values ✓ sample_values for the marker size ✓ otu_labels for text values	✓ Chart initializes without error ✓ Chart updates when a new sample is selected -AND- Chart uses 4 of the following: ✓ otu_ids for the x values ✓ otu_ids for marker colors ✓ sample_values for the y values ✓ sample_values for the marker size ✓ otu_labels for text values	✓ Chart initializes without error ✓ Chart may not update when a new sample is selected -AND- Chart uses 2-3 of the following: ✓ otu_ids for the x values ✓ otu_ids for marker colors ✓ sample_values for the y values ✓ sample_values for the marker size ✓ otu_labels for text values	✓ Chart may not initialize ✓ Chart may not updates when a new sample is selected -AND- Chart uses 0-1 of the following: ✓ otu_ids for the x values ✓ otu_ids for marker colors ✓ sample_values for the y values ✓ sample_values for the marker size ✓ otu_labels for text values	

Metadata And Deployment	All of the following: ✓ Metadata initializes without error ✓ Metadata updates when a new sample is selected ✓ App Successfully Deployed to Github Pages.	One of the following: ✓ Metadata initializes without error ✓ Metadata updates when a new sample is selected -AND- ✓ App Successfully Deployed to Github Pages.	✓ Metadata initializes with errors -AND- ✓ Metadata does not update when a new sample is selected -AND- ✓ App Successfully Deployed to Github Pages.	✓ Metadata initializes with errors -AND- ✓ Metadata does not update when a new sample is selected -AND- ✓ App not Deployed to Github Pages.	

	Mastery 20 points	Approaching Mastery 15 points	Emerging 5-0 points
Bonus (Gauge Chart)	All of the following: ✓ Chart initializes without error ✓ Chart updates when a new sample is selected ✓ Gauge correctly displays the wash frequency from 0-9	Two of the following: ✓ Chart initializes without error ✓ Chart updates when a new sample is selected ✓ Gauge correctly displays the wash frequency from 0-9	✓ Chart does not work -OR- ✓ Gauge chart code is not provided