Bird Feature Correlations (Final Correct Answer)

Question:

Continuing your work with the Antarctic Research Scientists, they loved the scatterplot you created for them.

Now they are sure there is a relationship between the attributes of the penguins. But how strong is that relationship and in what direction?

They have reached out again for help. Luckily you know just the plot: a correlation plot!

In this exercise, you will help the scientific team by creating a correlation plot between various penguin attributes in the provided `penguins` DataFrame.

Instructions:
1. Create a Pearson correlation table using pandas and save it as `penguin_corr`.
2. Create the correlation plot using `go.Heatmap()`.
3. Set the min and max values of the correlation plot to align with the minimum and maximum values a Pearson correlation can take (-1 to 1).
4. Use the red-green colorscale (`'RdYlGn'`) in the correlation plot.
5. Display the plot using `fig.show()`.

Answer:

```
# Create a correlation table with pandas
penguin_corr = penguins.corr(method='pearson')

# Set up the correlation plot
fig = go.Figure(go.Heatmap(
        # Set the appropriate x, y and z values
        z=penguin_corr.values.tolist(),
        x=penguin_corr.columns,
        y=penguin_corr.columns,
        # Set the color scale
        colorscale='rdylgn',
        # Set min and max values
        zmin=-1, zmax=1))

# Show the plot
fig.show()
```

Explanation of the Answer:

The `penguins.corr(method='pearson')` function computes the correlation table. The `go.Heatmap` is used to create the heatmap, where `z` specifies the correlation values, `x` the column names, and `y` the row names. The `zmin=-1` and `zmax=1` parameters adjust the color scale to span the full range of Pearson correlation values, ensuring accurate visualization. The `colorscale='rdylgn'` parameter visually represents correlation values, with green for positive correlations, red for negative correlations, and yellow for no correlation. The plot is displayed using `fig.show()`.