Data Visualization

seaborn

In [ ]:
```python
import seaborn as sns
import ssl
ssl._create_default_https_context = ssl._create_unverified_context
```

In [ ]:
```python
data = sns.load_dataset("penguins")
```

In [ ]:
```python
data[:5]
```

Out[ ]:

	species	island	bill_length_mm	bill_depth_mm	flipper_length_mm
0	Adelie	Torgersen	39.1	18.	181.0	3750.0	Ma
1	Adelie	Torgersen	39.5	7	186.0	3800.0	Fema
2	Adelie	Torgersen	40.3	17.	195.0	3250.0	Fema
3	Adelie	Torgersen	NaN	NaN	NaN	NaN	Na
4	Adelie	Torgersen	36.7	19.3	193.0	3450.0	Fema

In [ ]:
```python
data.shape
```

Out[ ]:(344, 7)

In [ ]:
```python
# Set the Seaborn theme
sns.set_theme()

# Set the dpi (dots per inch) value of the graphs to 300
sns.set(rc={"figure.dpi": 300})
# Define the width and height of the graphs in inches. Here, width is set to
sns.set(rc={"figure.figsize": (6, 3)})
```
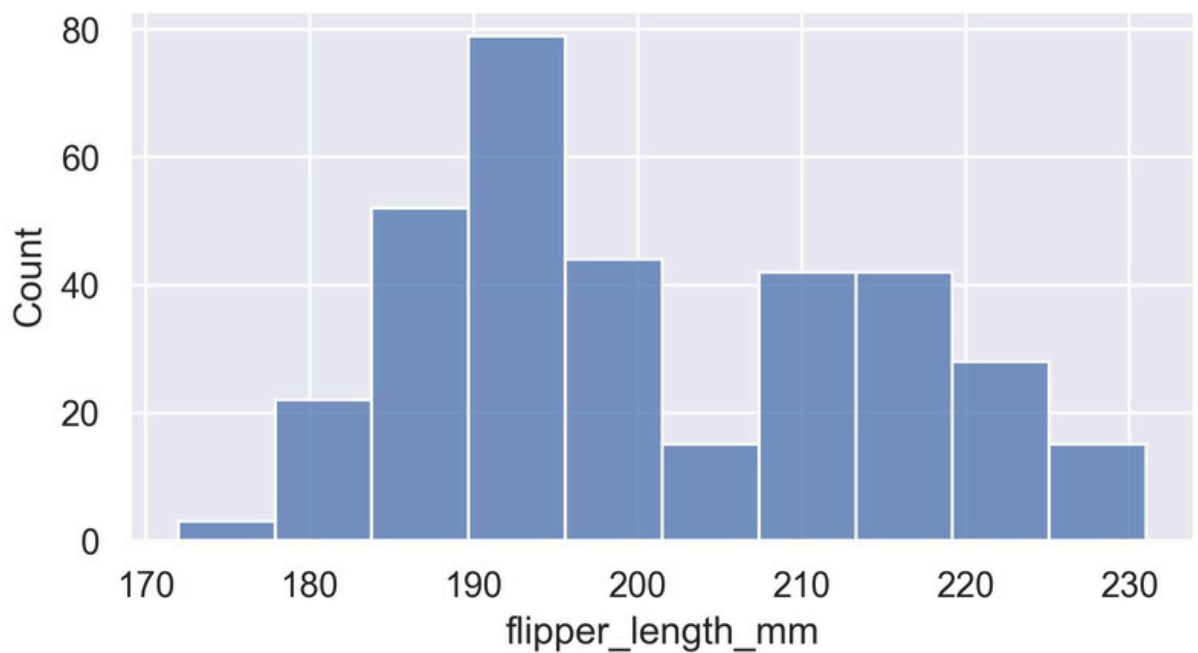
In [ ]:
```python
# Scatter plot
scatter = sns.scatterplot(x="bill_length_mm", y="bill_depth_mm", data=data, h
scatter.set_title("Bill Length vs Bill Depth")
```

Out[ ]:Text(0.5, 1.0, 'Bill Length vs Bill Depth')

Bill Length vs Bill Depth
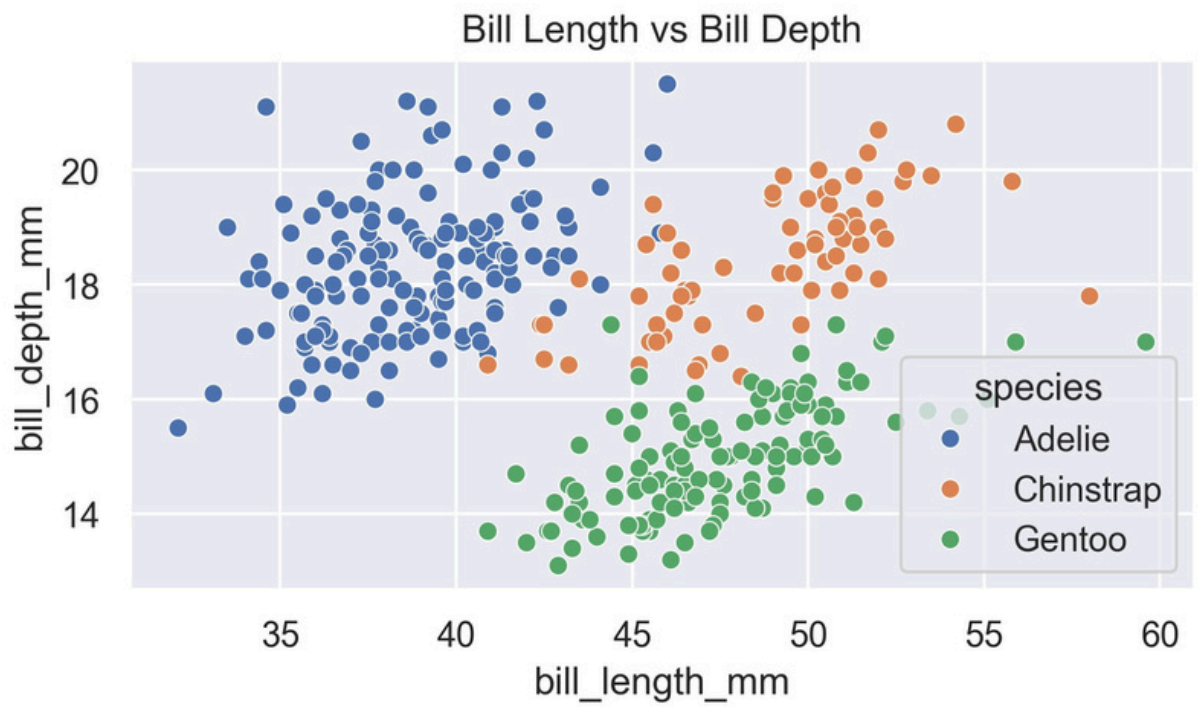
```
In [ ]:     sns.histplot(x= "flipper_length_mm" , data=data)
            #sns.set_theme(style='dark')
```
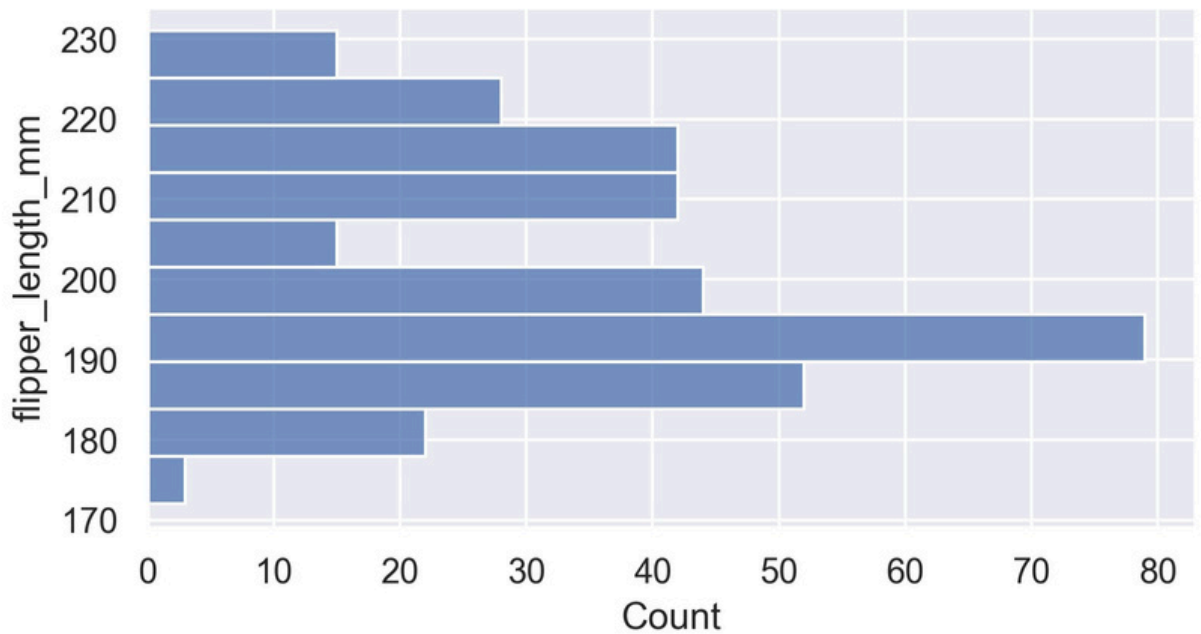
Out[ ]:<Axes: xlabel='flipper_length_mm', ylabel='Count'>

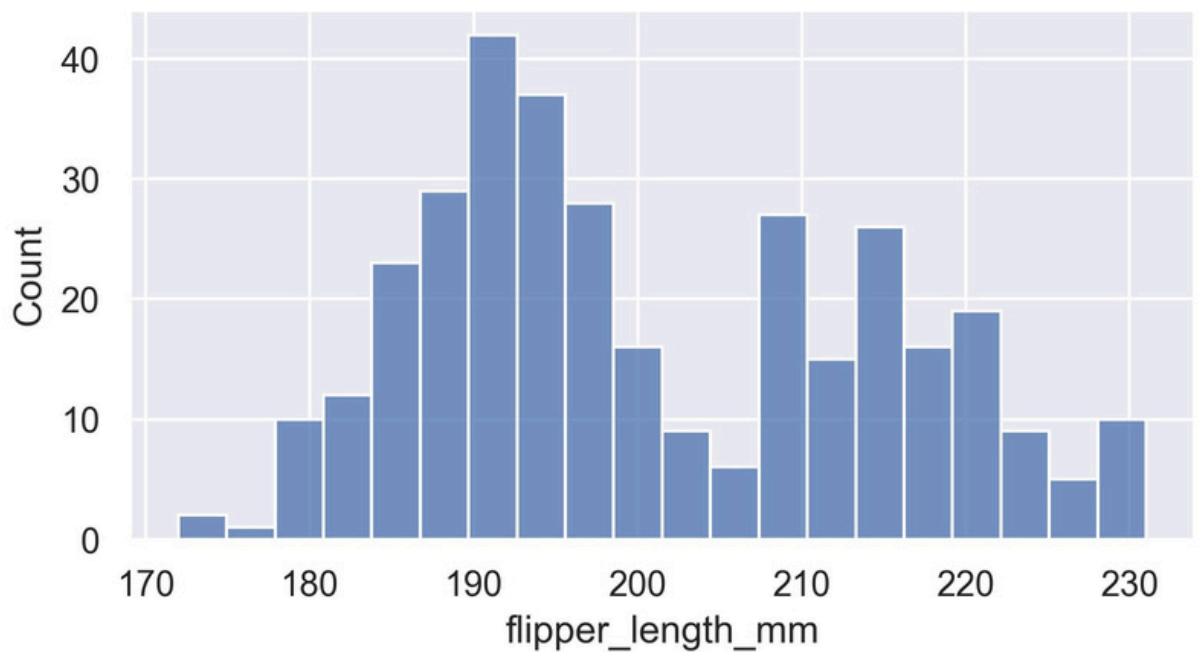
```
In [ ]:     sns.histplot(y= "flipper_length_mm" , data=data)
```

Out[ ]:<Axes: xlabel='Count', ylabel='flipper_length_mm'>

in By: lakshmanan M

```
In [ ]:    sns.histplot(x= "flipper_length_mm" , data=data,binwidth=3)
```
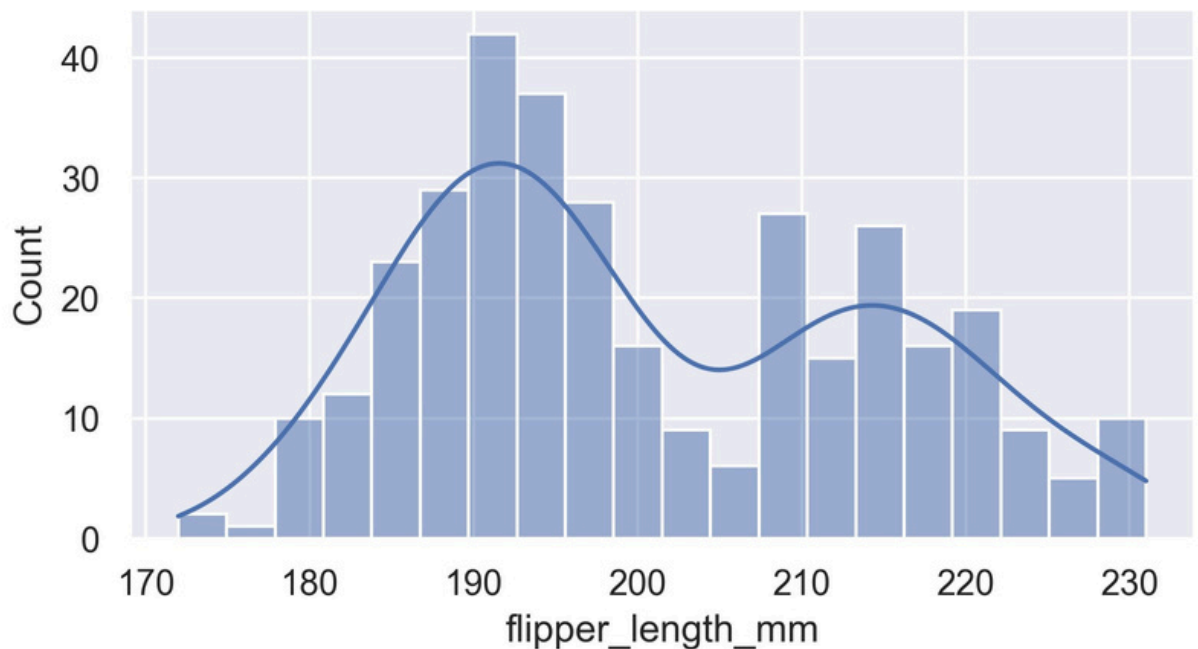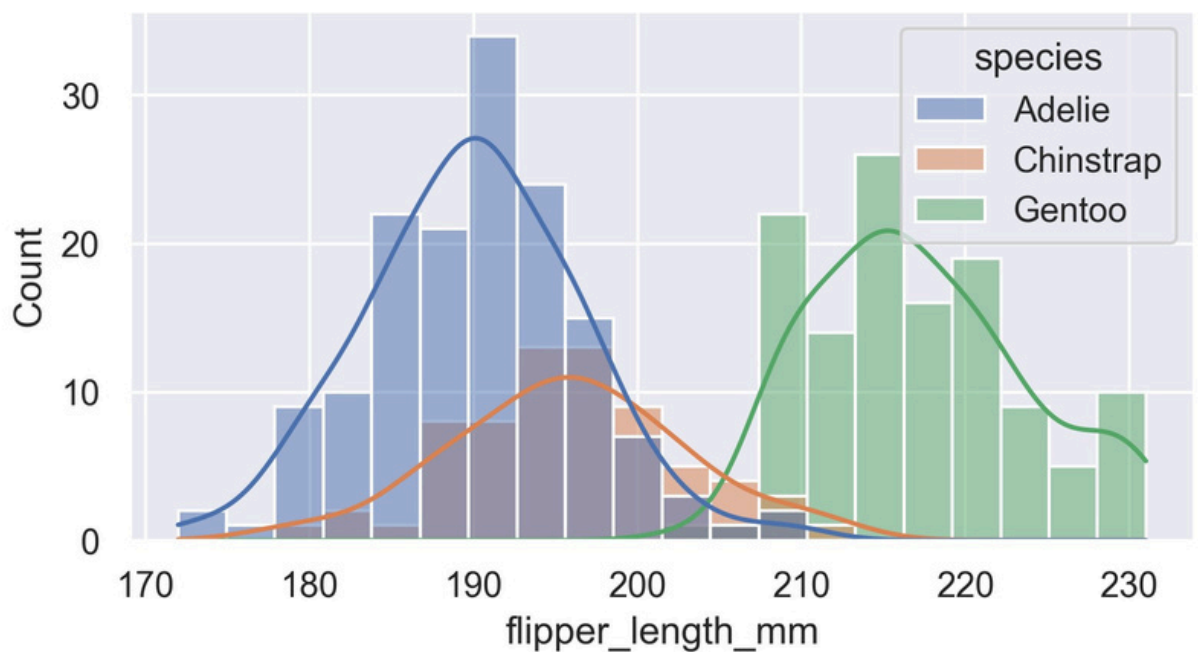
Out[ ]:<Axes: xlabel='flipper_length_mm', ylabel='Count'>


```
In [ ]:    sns.histplot(x= "flipper_length_mm" , data=data,binwidth=3,kde=True)
```

Out[ ]:<Axes: xlabel='flipper_length_mm', ylabel='Count'>

in By: lakshmanan M

In [ ]:
```python
sns.histplot(x= "flipper_length_mm" , data=data,binwidth=3,kde=True,hue="spec
```

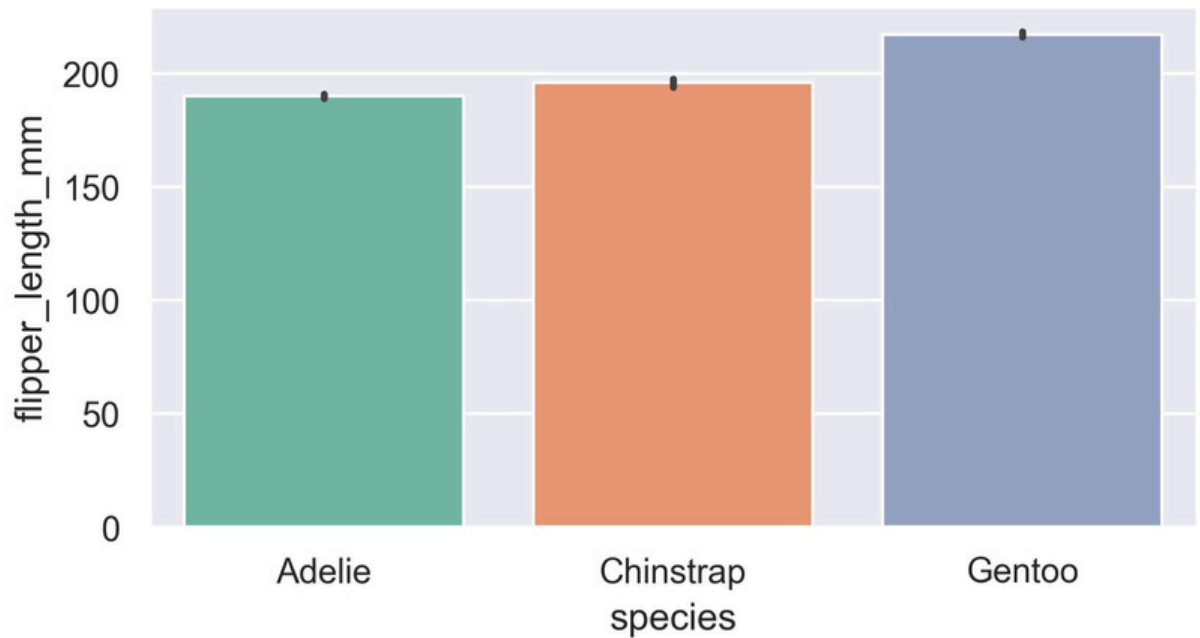Out[ ]:<Axes: xlabel='flipper_length_mm', ylabel='Count'>

In [ ]:
```python
# Bar plot

bar = sns.barplot(x="species", y="flipper_length_mm", data=data, palette="Set
```

/var/folders/26/pvvz5dxx7lb978b1_d113_r40000gn/T/ipykernel_4463/3284859643.p
y:3: FutureWarning:
Passing `palette` without assigning `hue` is deprecated and will be removed i
n v0.14.0. Assign the `x` variable to `hue` and set `legend=False` for the sa
me effect.

  bar = sns.barplot(x="species", y="flipper_length_mm", data=data, palette="S
et2")

By: lakshmanan M

In [ ]:
```python
bar = sns.barplot(x="species", y="flipper_length_mm", data=data,hue="sex")
```


In [ ]:
```python
box = sns.boxplot(x="species", y="flipper_length_mm", data=data, palette="Set
box.set_title("Flipper Length by Species")
```
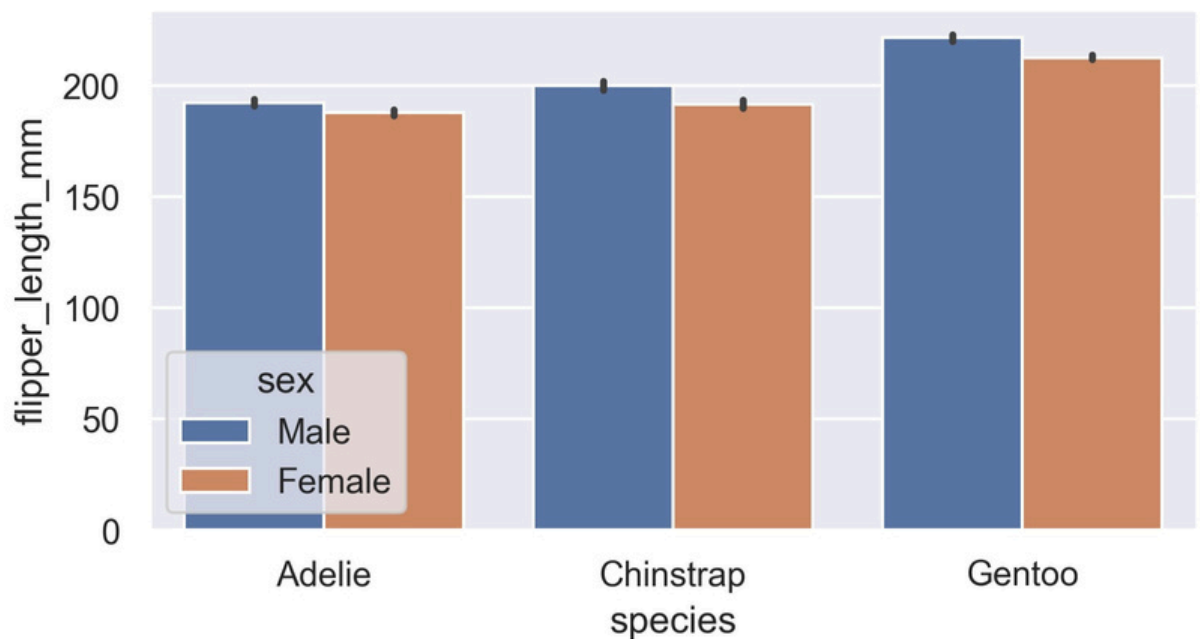
/var/folders/26/pvvz5dxx7lb978b1_d113_r40000gn/T/ipykernel_4463/345476460.py: 1: FutureWarning:
Passing `palette` without assigning `hue` is deprecated and will be removed i n v0.14.0. Assign the `x` variable to `hue` and set `legend=False` for the sa me effect.
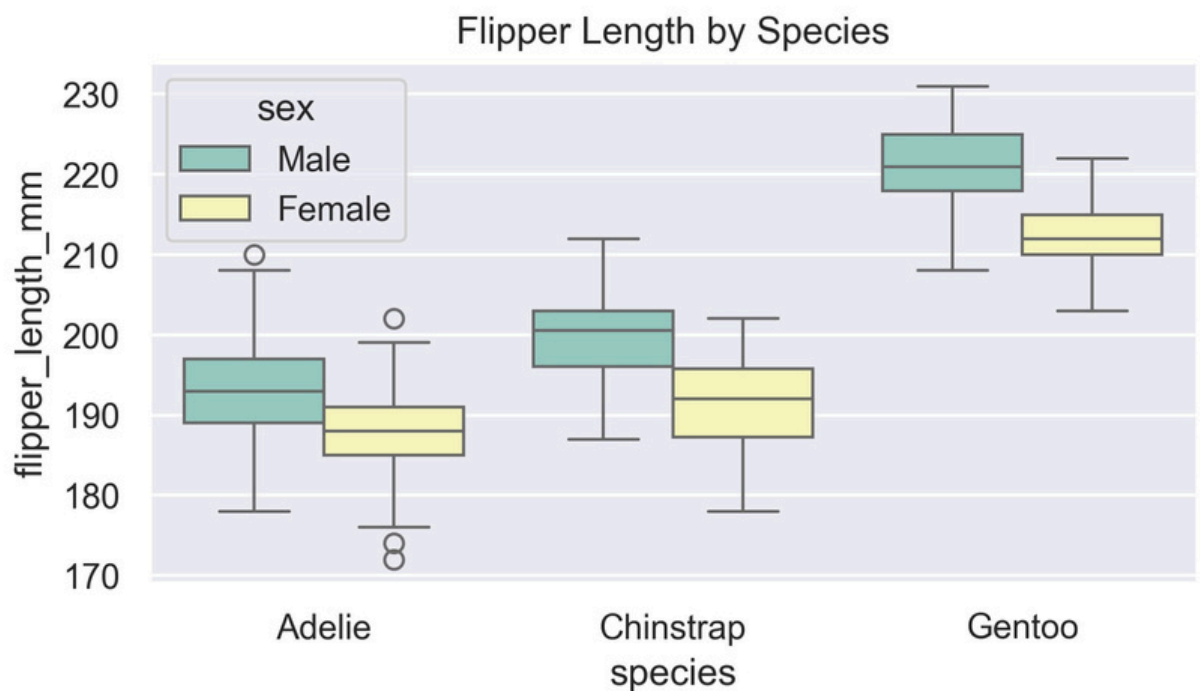
 box = sns.boxplot(x="species", y="flipper_length_mm", data=data, palette="S et3")

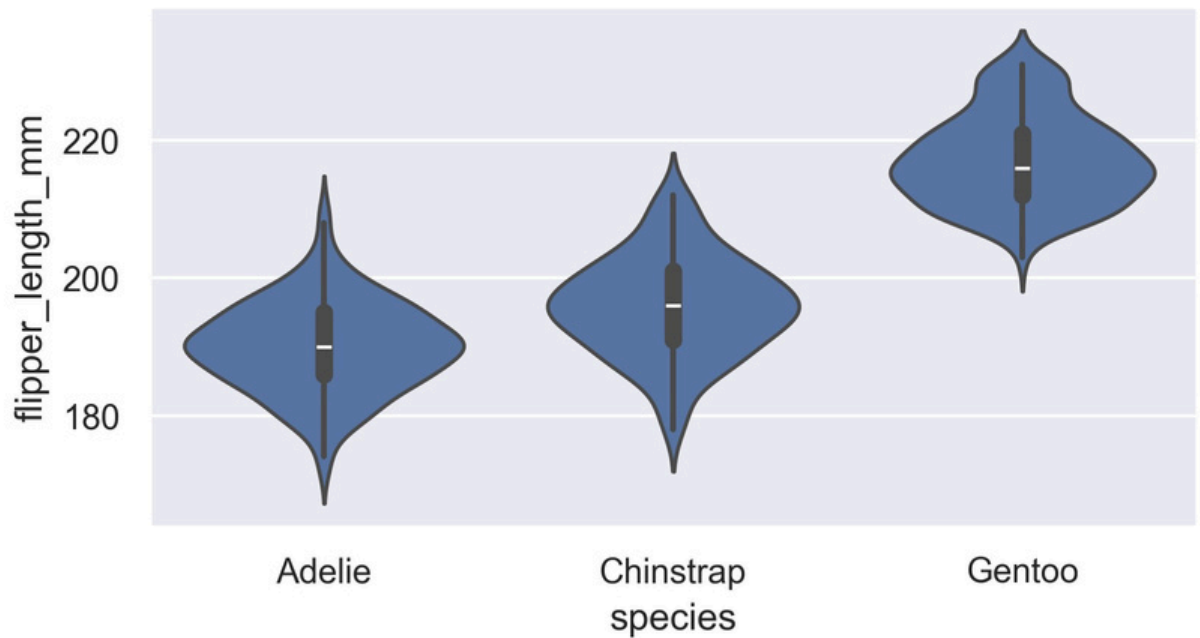Out[ ]:Text(0.5, 1.0, 'Flipper Length by Species')

Flipper Length by Species
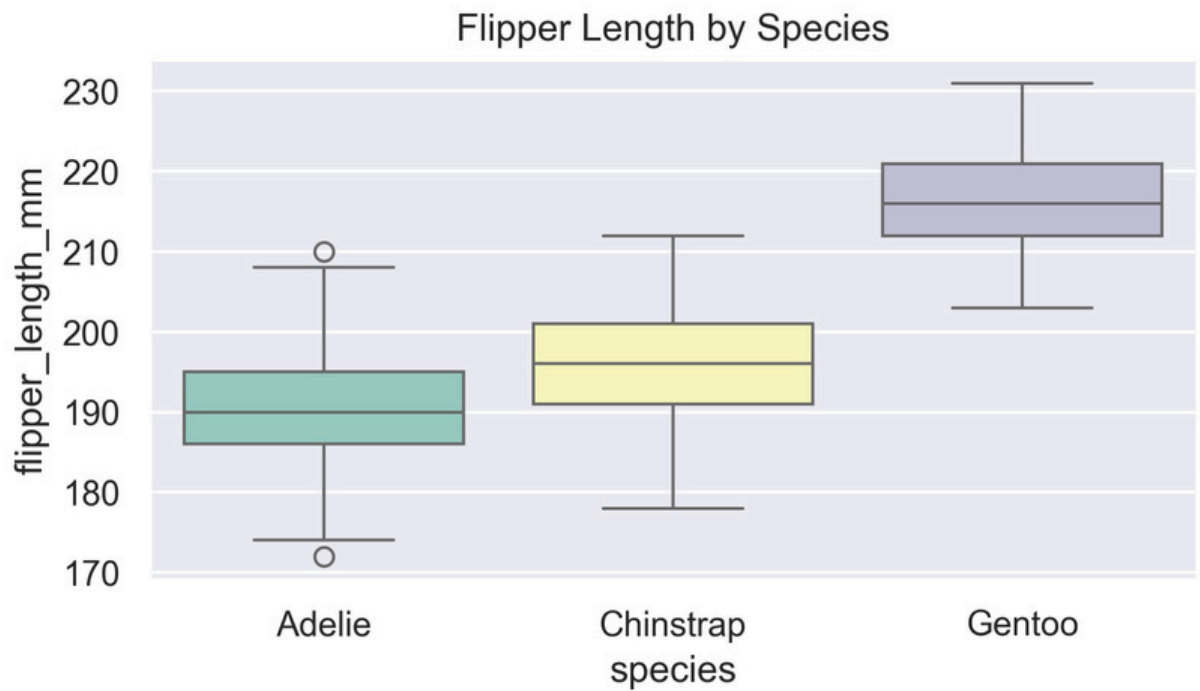
In [ ]:
```
box = sns.boxplot(x="species", y="flipper_length_mm", data=data, palette="Set
box.set_title("Flipper Length by Species") # Grafik başlığı
```

Out[ ]:Text(0.5, 1.0, 'Flipper Length by Species')

Flipper Length by Species

In [ ]:
```
sns.violinplot(x="species",y="flipper_length_mm",data=data)
```

Out[ ]:<Axes: xlabel='species', ylabel='flipper_length_mm'>

in By: lakshmanan M
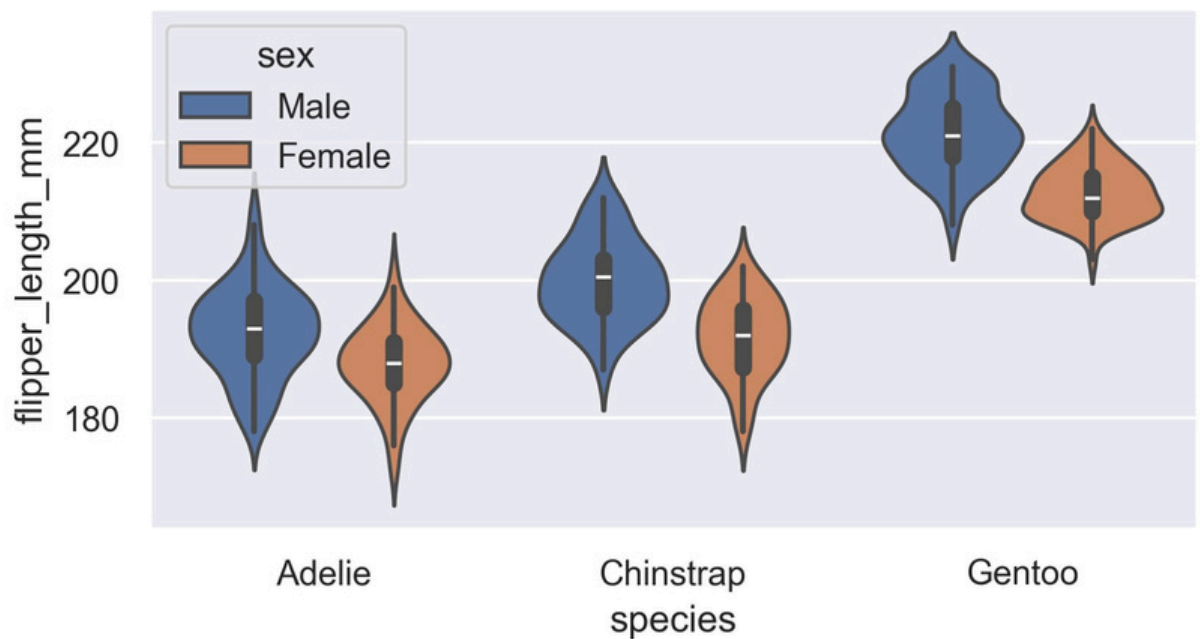
In [ ]:
```
sns.violinplot(x="species",y="flipper_length_mm",data=data,hue="sex")
```

Out[ ]:<Axes: xlabel='species', ylabel='flipper_length_mm'>

In [ ]:
```
grid = sns.FacetGrid(data, col="island", row="sex", palette="Set2")
```

In [ ]:
```
sns.FacetGrid(data,col="island",row="sex").map(sns.histplot,"flipper_length_m
```

Out[ ]:<seaborn.axisgrid.FacetGrid at 0x14f9f04f0>

In [ ]:
```
sns.FacetGrid(data,col="island",row="sex").map(sns.distplot, "flipper_length_
```

/Users/onurgumus/Desktop/Python ile Projeler/seaborn/.venv/lib/python3.10/sit
e-packages/seaborn/axisgrid.py:854: UserWarning

Please adapt your code to use either `displot` (a figure-level function with similar flexibility) or `histplot` (an axes-level function for histograms).

For a guide to updating your code to use the new functions, please see https://gist.github.com/mwaskom/de44147ed2974457ad6372750bbe5751
 func(*plot_args, **plot_kwargs)
/Users/onurgumus/Desktop/Python ile Projeler/seaborn/.venv/lib/python3.10/site-packages/seaborn/axisgrid.py:854: UserWarning:

`distplot` is a deprecated function and will be removed in seaborn v0.14.0.

Please adapt your code to use either `displot` (a figure-level function with similar flexibility) or `histplot` (an axes-level function for histograms).
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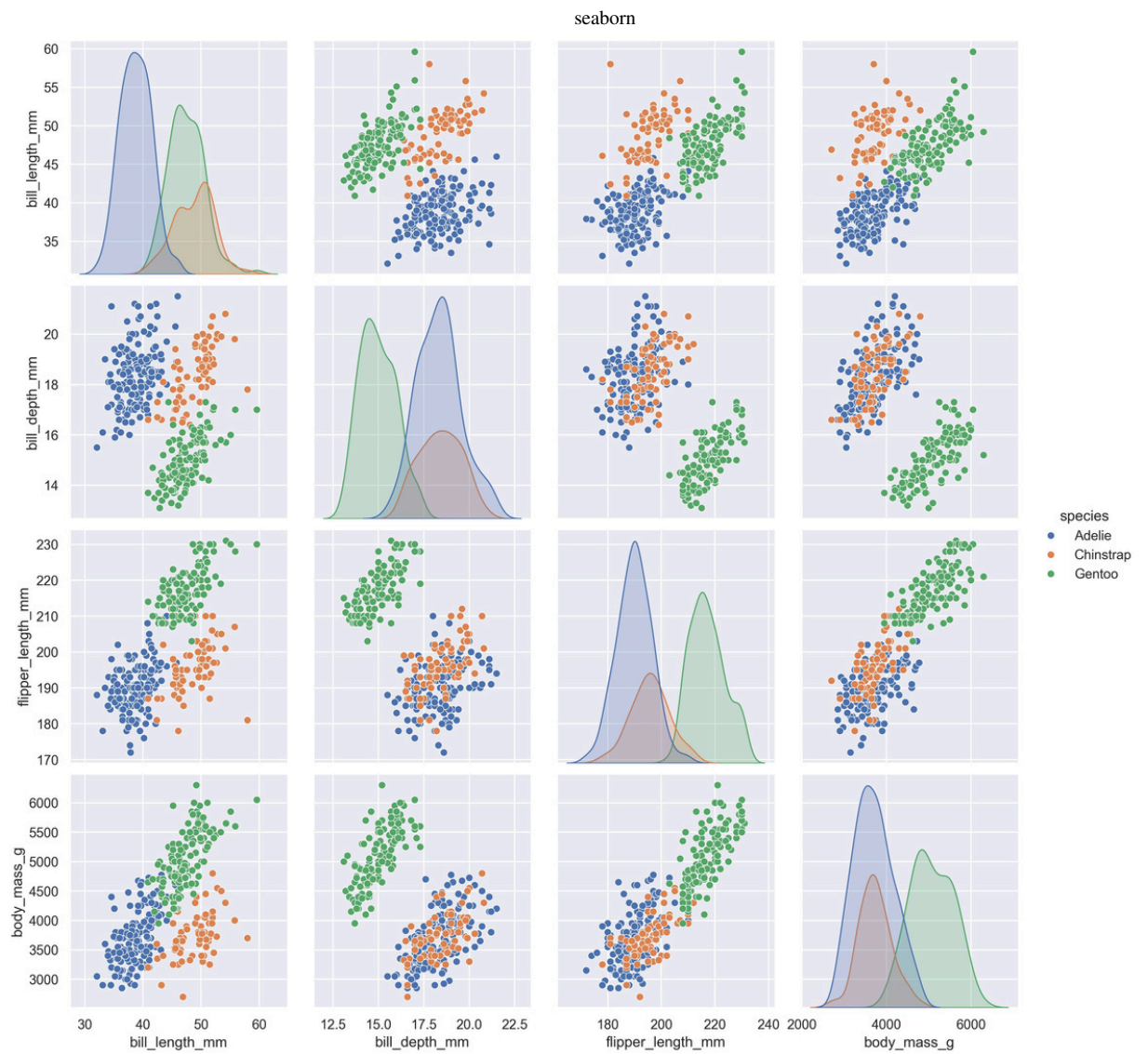For a guide to updating your code to use the new functions, please see https://gist.github.com/mwaskom/de44147ed2974457ad6372750bbe5751
 func(*plot_args, **plot_kwargs)

Out[ ]:<seaborn.axisgrid.FacetGrid at 0x14f4c62f0>

By: lakshmanan M
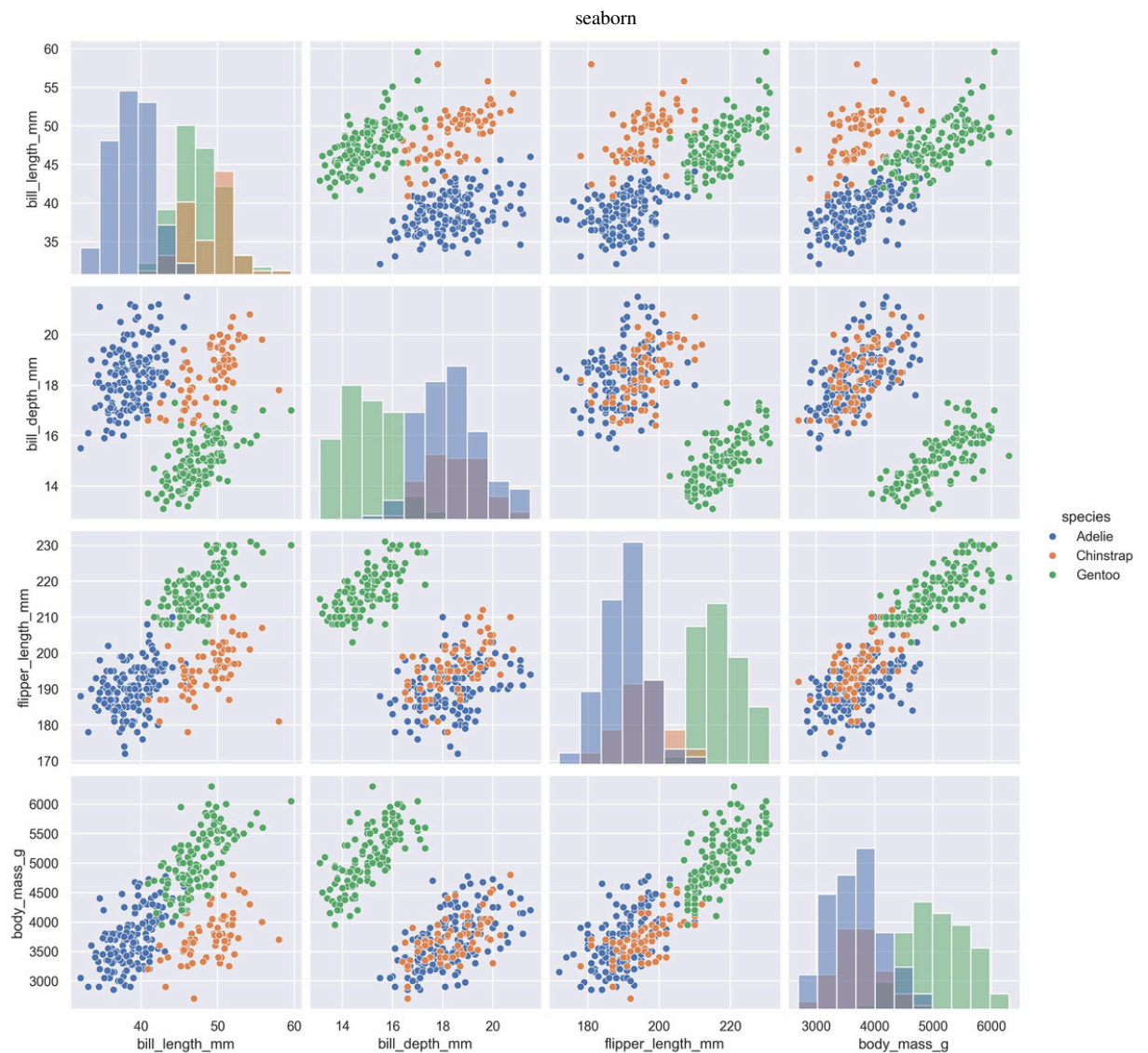
```
In [ ]:   sns.pairplot(data,hue="species",height=3)
```

Out[ ]:<seaborn.axisgrid.PairGrid at 0x14fa59d20>

```
In [ ]:    sns.pairplot(data,hue="species",height=3,diag_kind="hist")
```
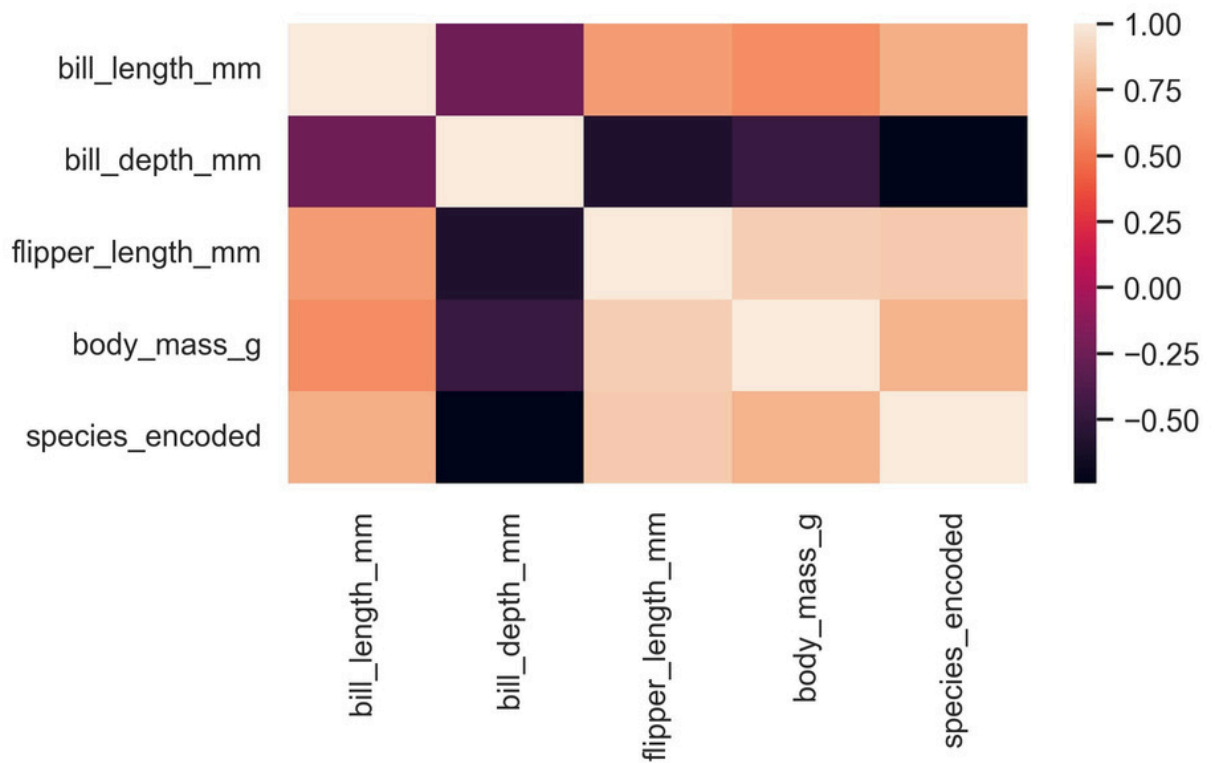
Out[ ]:<seaborn.axisgrid.PairGrid at 0x28c3472e0>

In [ ]:
```python
from sklearn.preprocessing import LabelEncoder

label_encoder = LabelEncoder()
data["species_encoded"] = label_encoder.fit_transform(data["species"])
# Select numeric columns only for correlation analysis
numeric_data = data.select_dtypes(include=['float64', 'int64'])
# Create heatmap of correlations using numeric data
sns.heatmap(numeric_data.corr())
```
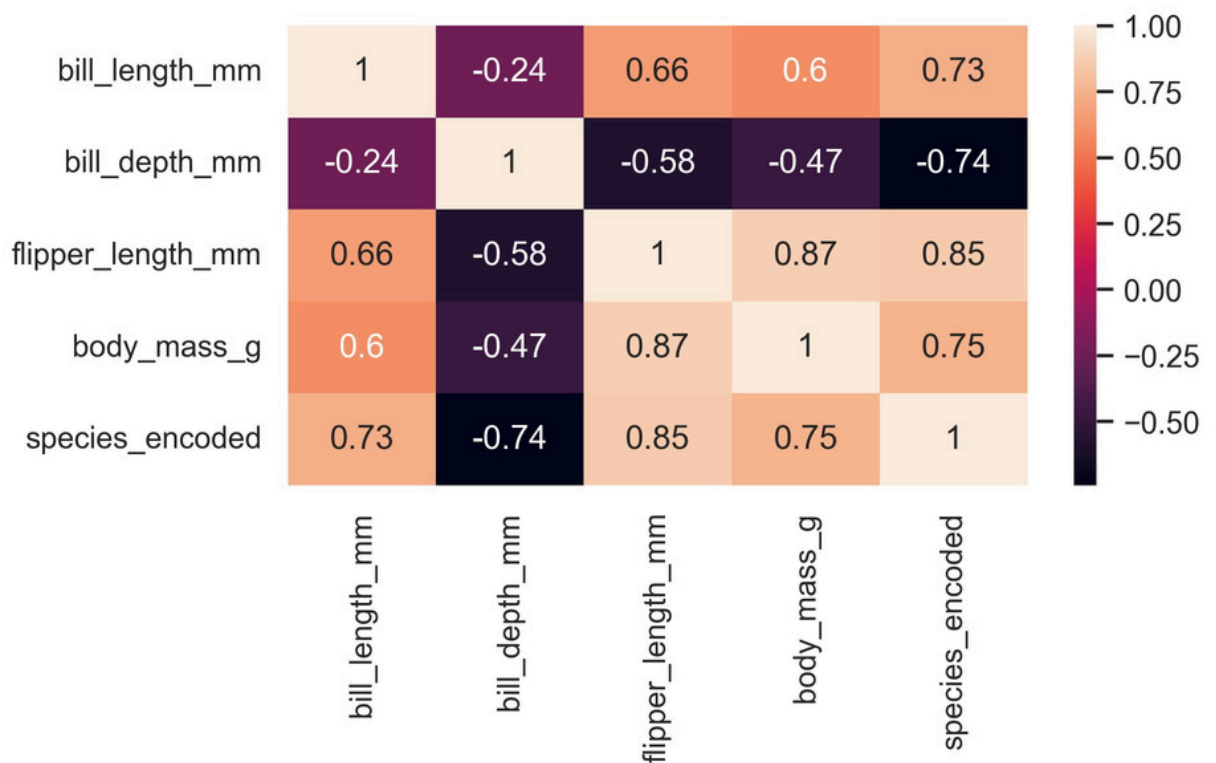
Out[ ]:<Axes: >

In [ ]:
```
# Create heatmap of correlations using numeric data
sns.heatmap(numeric_data.corr(), annot=True)
```

Out[ ]:<Axes: >

Thank you very much!