```
import seaborn as sns
```

Figure and Axis API

```
penguins = sns.load_dataset('penguins')
```

```
type(penguins)
```

```
pandas.core.frame.DataFrame
```

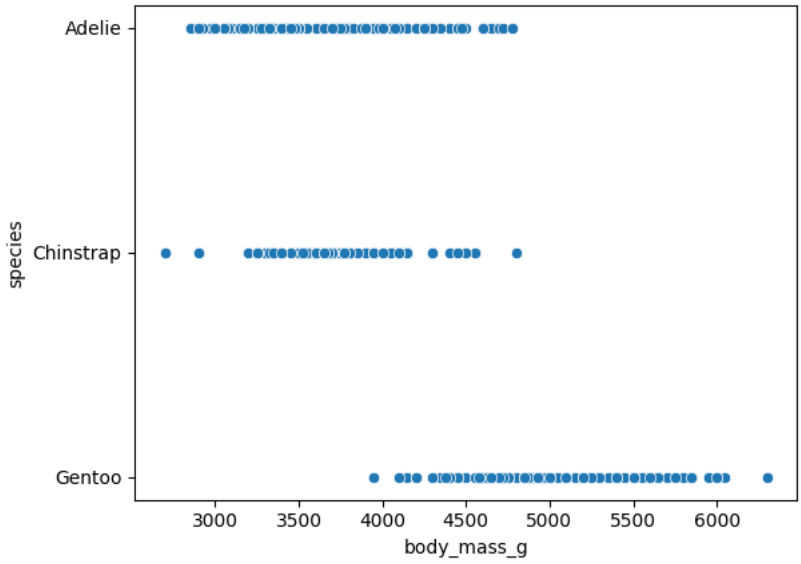
```
penguins.head(5)
```

	species	island	bill_length_mm	bill_depth_mm	flipper_length_mm	body_mas
0	Adelie	Torgersen	39.1	18.7	181.0	37
1	Adelie	Torgersen	39.5	17.4	186.0	38
2	Adelie	Torgersen	40.3	18.0	195.0	32
3	Adelie	Torgersen	NaN	NaN	NaN	
4	Adelie	Torgersen	36.7	19.3	193.0	34

```
penguins.tail(5)
```

	species	island	bill_length_mm	bill_depth_mm	flipper_length_mm	body_mass_g
339	Gentoo	Biscoe	NaN	NaN	NaN	NaN
340	Gentoo	Biscoe	46.8	14.3	215.0	4850.0
341	Gentoo	Biscoe	50.4	15.7	222.0	5750.0
342	Gentoo	Biscoe	45.2	14.8	212.0	5200.0
343	Gentoo	Biscoe	49.9	16.1	213.0	5400.0

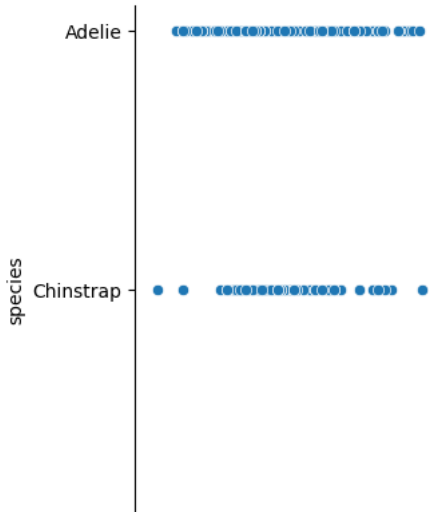
```
# Body mass and species correlation
ax = sns.scatterplot(data=penguins, x='body_mass_g', y='species')
```



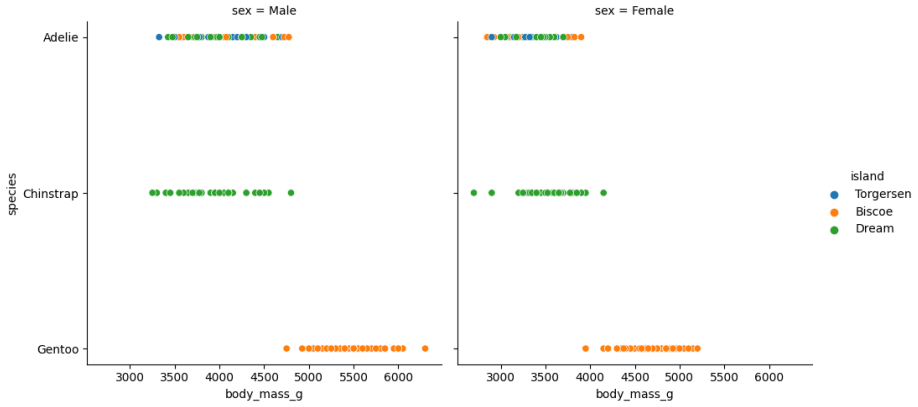

```
type(ax)
```

```
matplotlib.axes._axes.Axes
```

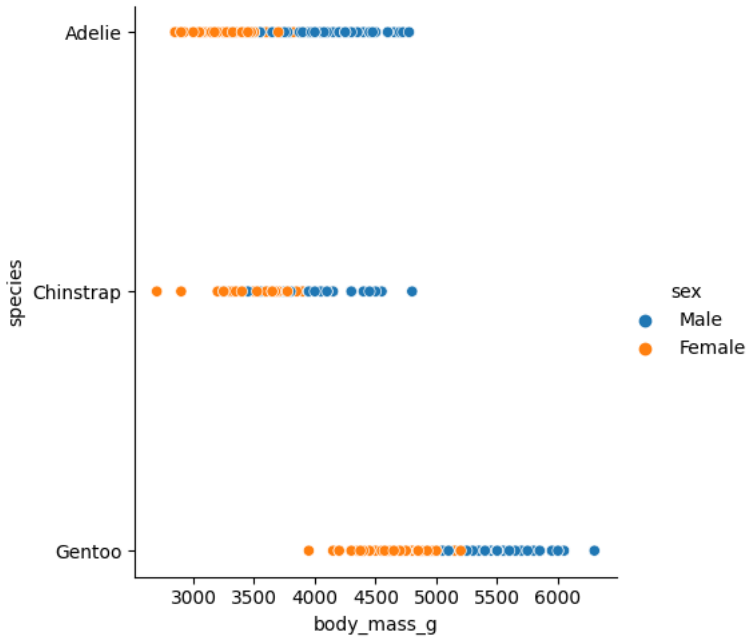
```
ax = sns.relplot(data=penguins, x='body_mass_g', y='species', kind='scatter')
```



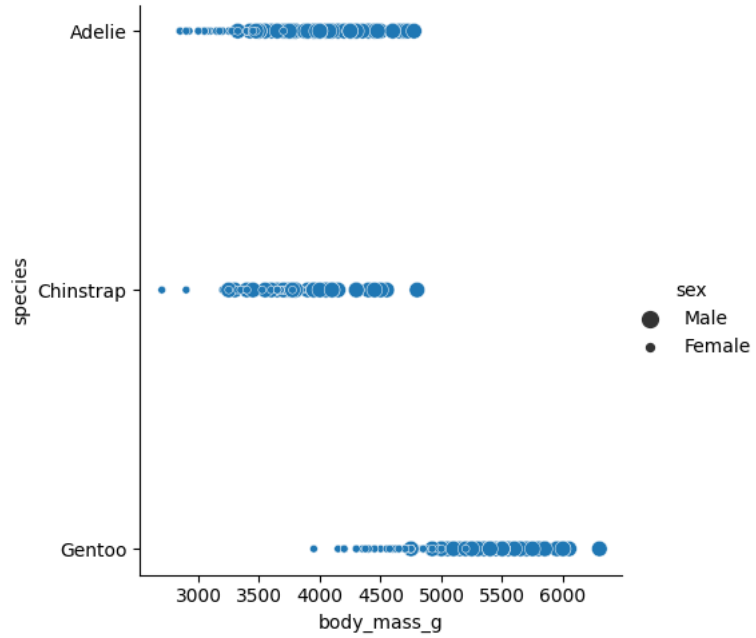

```
ax = sns.relplot(data=penguins, x='body_mass_g', y='species', kind='scatter', col='sex', hue='island')
```




```
ax = sns.relplot(data=penguins, x='body_mass_g', y='species', kind='scatter', hue='sex')
```

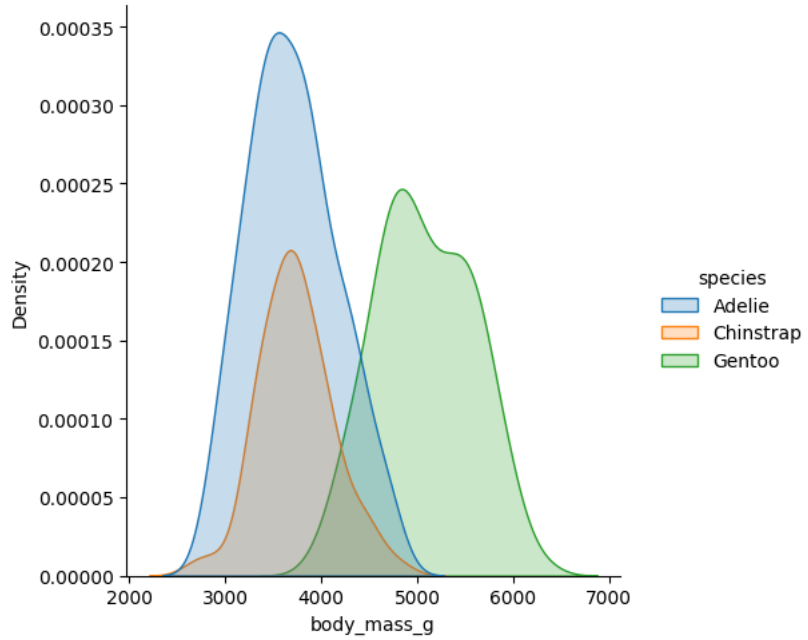



```
ax = sns.relplot(data=penguins, x='body_mass_g', y='species', kind='scatter', size='sex')
```




```
sns.displot(data=penguins, x='body_mass_g', kind='kde', hue='species', fill=True)
```

```
<seaborn.axisgrid.FacetGrid at 0x7efcf70a01f0>
```

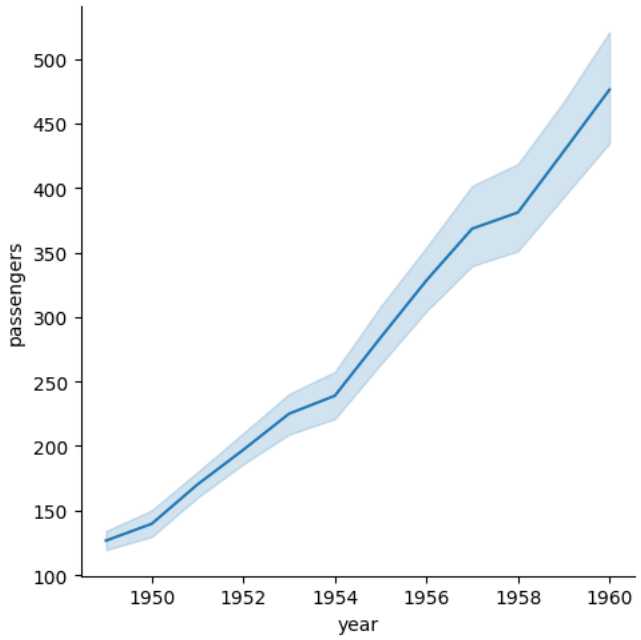



```
flights = sns.load_dataset('flights')
flights.head(10)
```

	year	month	passengers
0	1949	Jan	112
1	1949	Feb	118
2	1949	Mar	132
3	1949	Apr	129
4	1949	May	121
5	1949	Jun	135
6	1949	Jul	148
7	1949	Aug	148
8	1949	Sep	136
9	1949	Oct	119

```
sns.relplot(data=flights, x='year', y='passengers', kind='line')
```

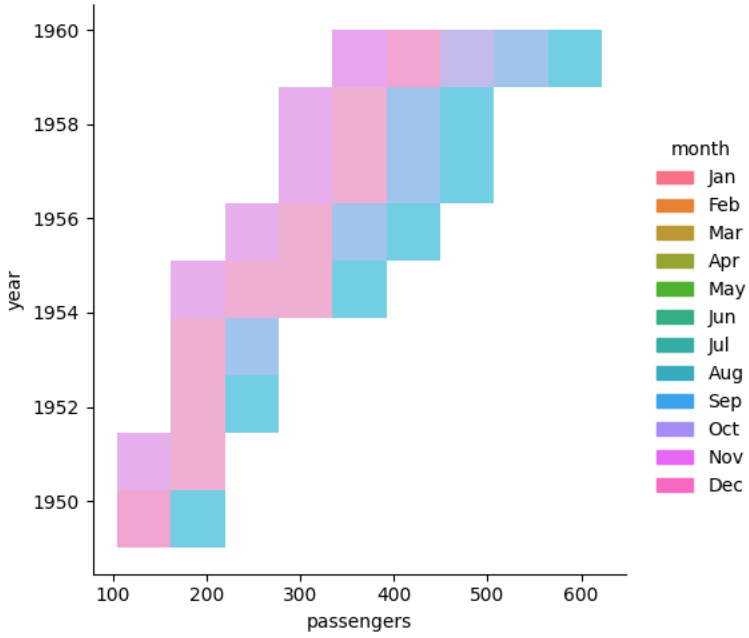
```
<seaborn.axisgrid.FacetGrid at 0x7efcf75bf0d0>
```



Distribution Plots

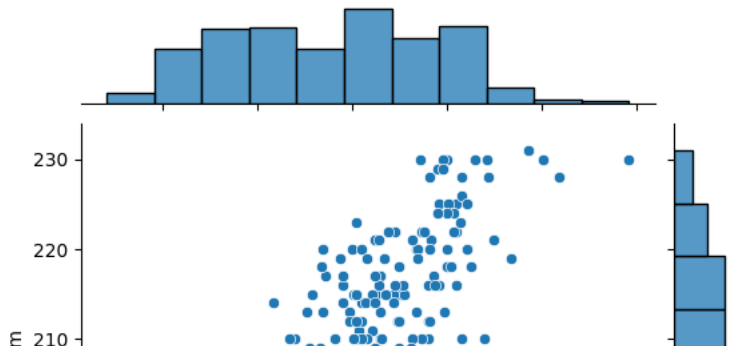
```
sns.displot(data=flights, x='passengers', y='year', kind='hist', hue='month')
```

```
<seaborn.axisgrid.FacetGrid at 0x7efcf431ca30>
```



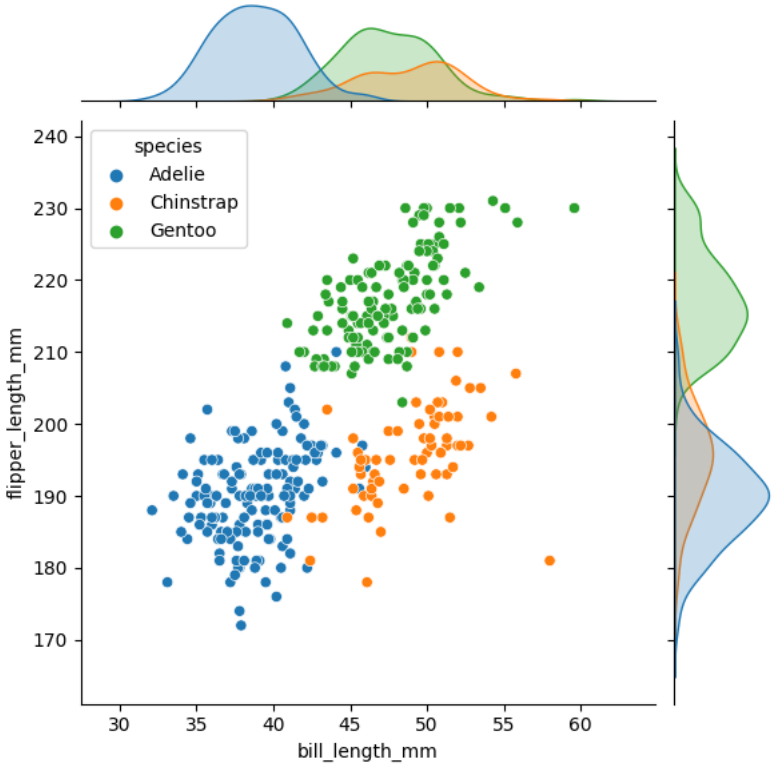

```
# JointPlot
sns.jointplot(data=penguins, x='bill_length_mm', y="flipper_length_mm")
```

```
<seaborn.axisgrid.JointGrid at 0x7efcf4e07310>
```



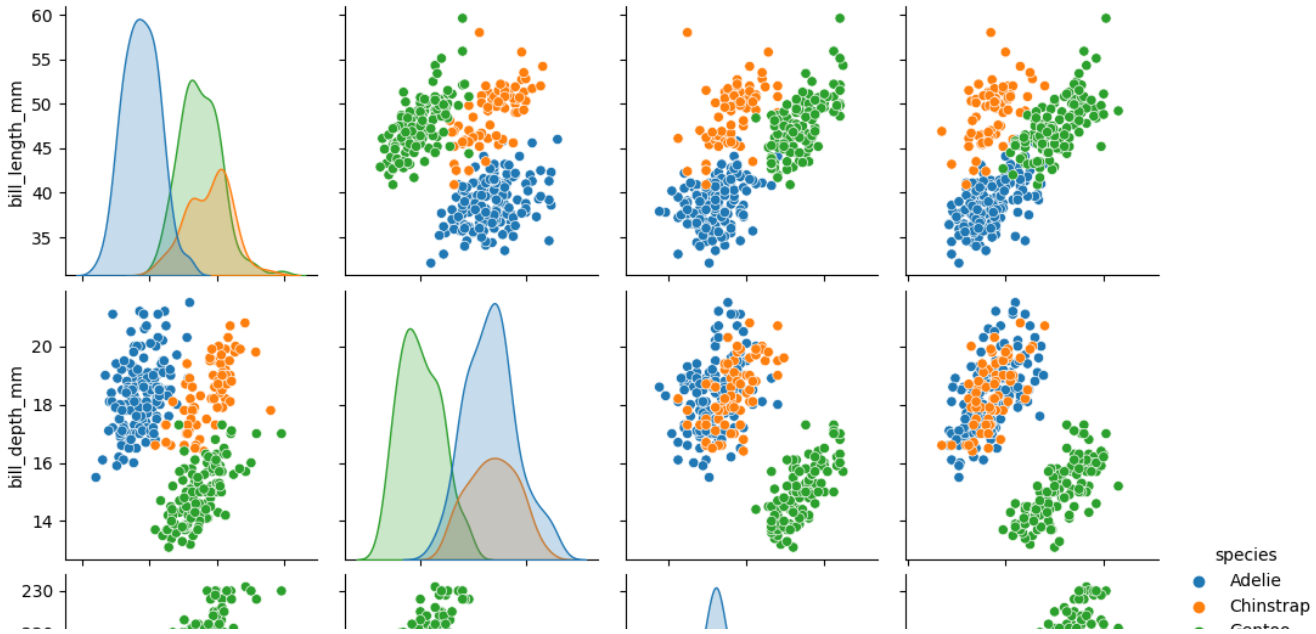

```
# JointPlot
sns.jointplot(data=penguins, x='bill_length_mm', y="flipper_length_mm", hue='species')
```

```
<seaborn.axisgrid.JointGrid at 0x7efcf4407dc0>
```



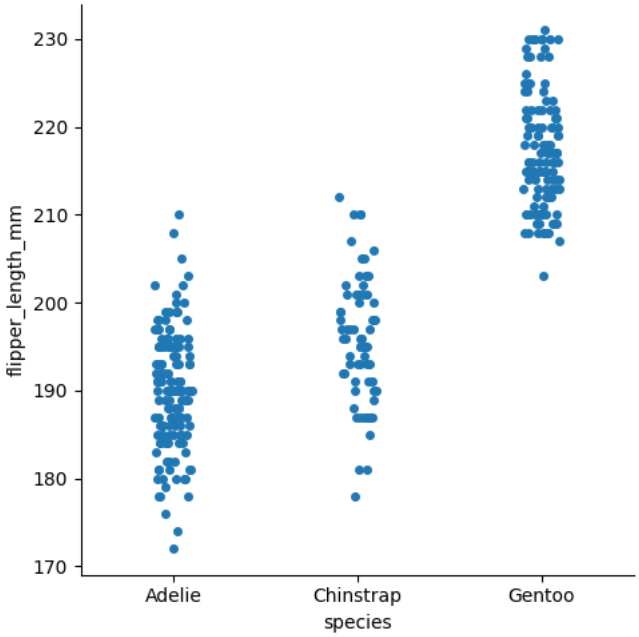

```
# PairPlot
sns.pairplot(data=penguins, hue='species')
```

```
<seaborn.axisgrid.PairGrid at 0x7efcf45def80>
```




```
sns.catplot(data=penguins, x='species', y='flipper_length_mm')
```

```
<seaborn.axisgrid.FacetGrid at 0x7efcef065390>
```



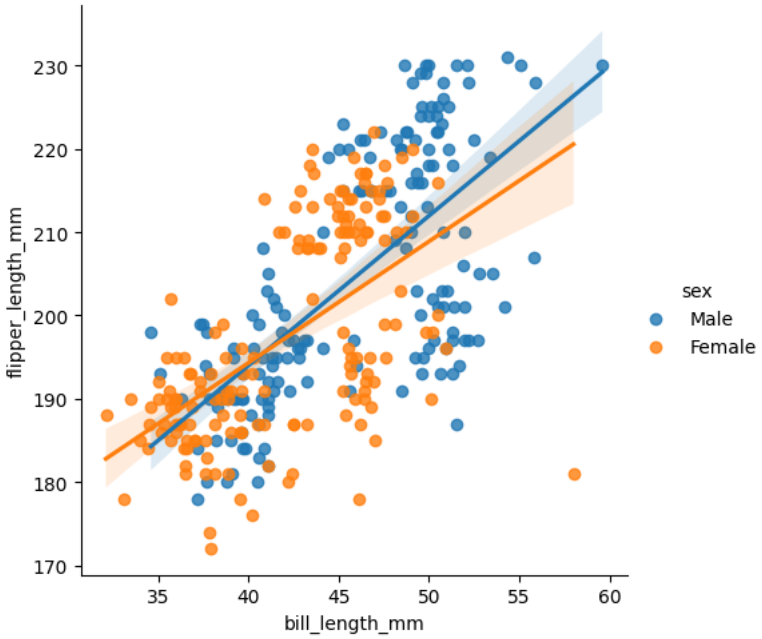

```
sns.catplot(data=penguins, x='species', y='flipper_length_mm', kind='box')
```

```
<seaborn.axisgrid.FacetGrid at 0x7efcef0e3670>
```

Regression Visualization

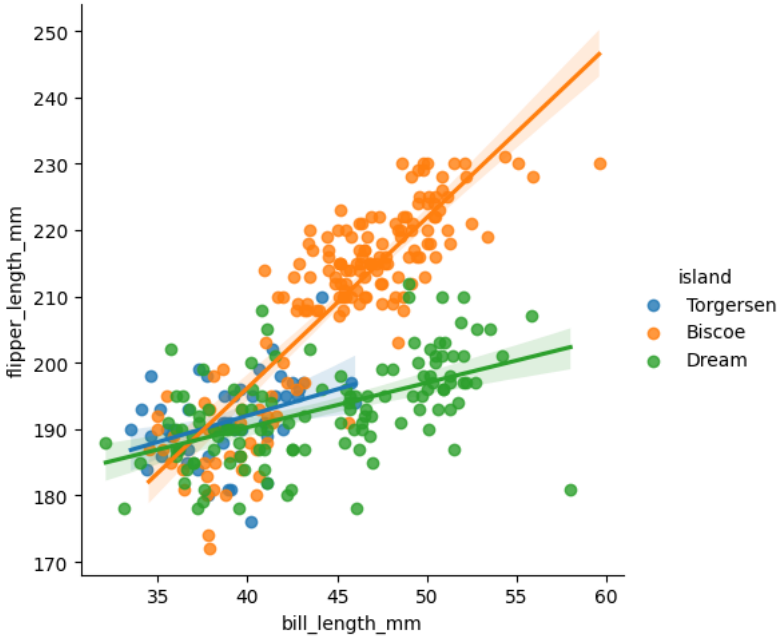
```
# By sex
sns.lmplot(data=penguins, x='bill_length_mm', y="flipper_length_mm", hue='sex')
```

```
<seaborn.axisgrid.FacetGrid at 0x7efcf442a440>
```




```
# By island
sns.lmplot(data=penguins, x='bill_length_mm', y="flipper_length_mm", hue='island')
```

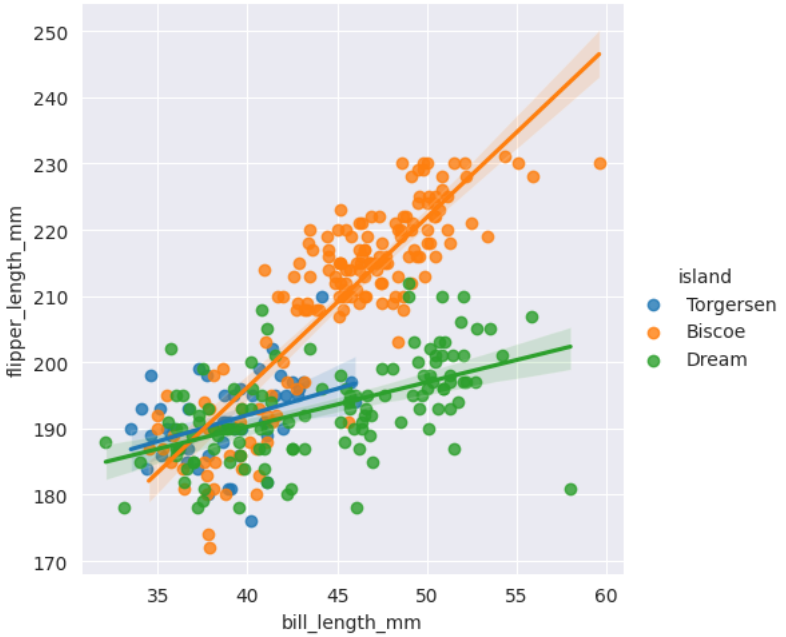
```
<seaborn.axisgrid.FacetGrid at 0x7efceecf05e0>
```



Vizual Style Change

```
sns.set_style('darkgrid')
sns.lmplot(data=penguins, x='bill_length_mm', y="flipper_length_mm", hue='island')
```

```
<seaborn.axisgrid.FacetGrid at 0x7efceeed0340>
```



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