

Matplotlib and plotnine

Penguins data

```
from palmerpenguins import load_penguins
import pandas as pd
import numpy as np

penguins = load_penguins()
penguins_cleaned = penguins.dropna()

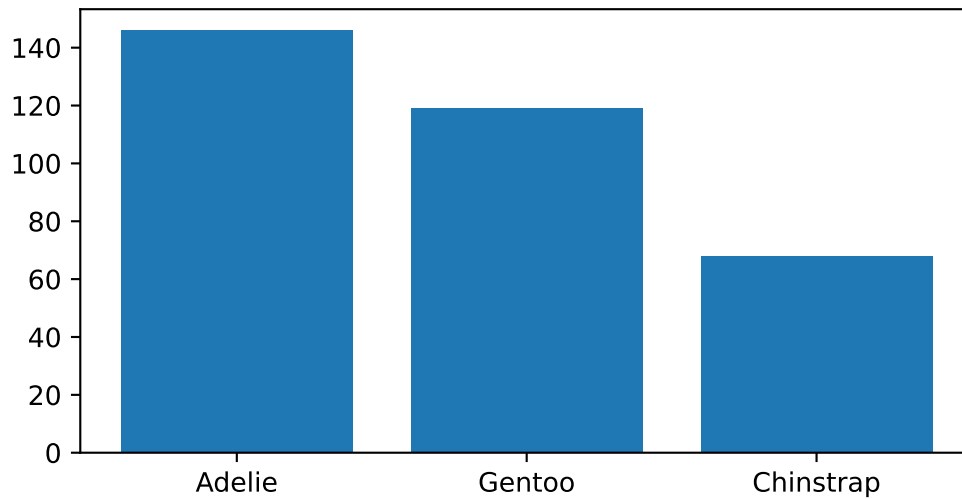
species_counts = penguins_cleaned['species'].value_counts()
```

Matplotlib

```
import matplotlib.pyplot as plt

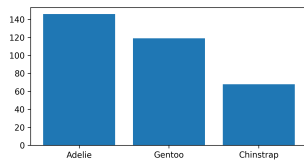
plot = plt.figure()
plot.set_figwidth(6)
plot.set_figheight(3)

plt.bar(species_counts.index, species_counts.values)
```



For most flexibility, save chart as an image and then use Quarto formatting of images:

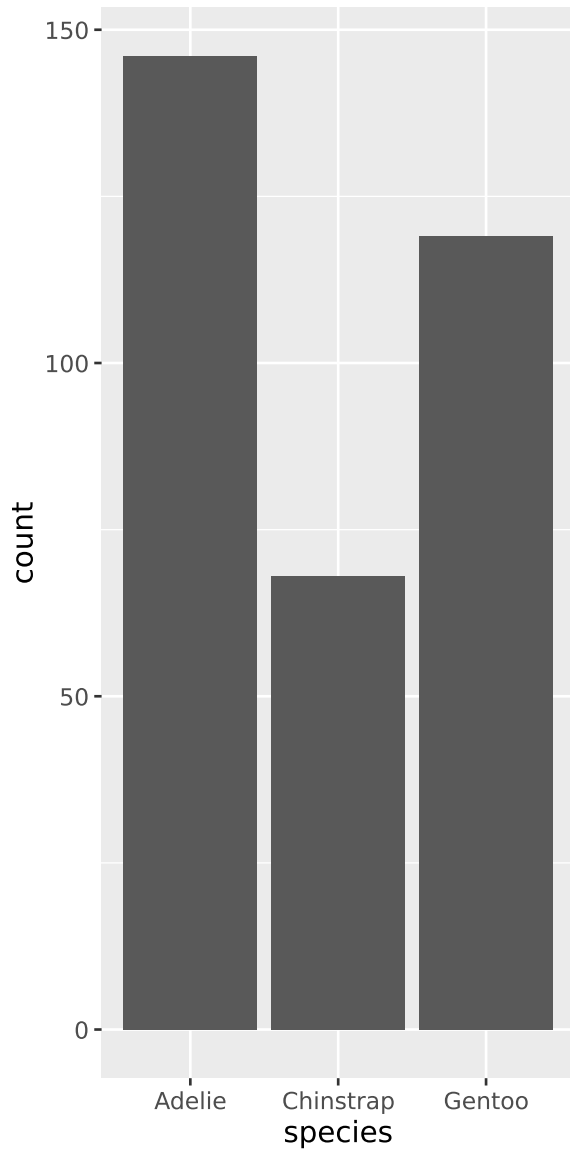
```
plot.savefig("matplotlib_bar.png")
```



Plotnine

```
import plotnine as pn

pn_species_col = (
    pn.ggplot(species_counts.reset_index(), pn.aes("species",
                                                    "count"))
    + pn.geom_col()
    + pn.theme(figure_size=(3, 6))
)
pn_species_col
```



Again, export as image for most flexibility

```
pn_species_col.save("plotnine_bar.png", dpi=300)
```

```
/home/vscode/.local/lib/python3.13/site-packages/plotnine/ggplot.py:615: PlotnineWarning: Sa  
/home/vscode/.local/lib/python3.13/site-packages/plotnine/ggplot.py:616: PlotnineWarning: Fi
```