Matplotlib and plotnine

Penguins data

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

penguins_df = load_penguins()
penguins_cleaned_df = penguins_df.dropna()

species_counts = penguins_cleaned_df['species'].value_counts()
```
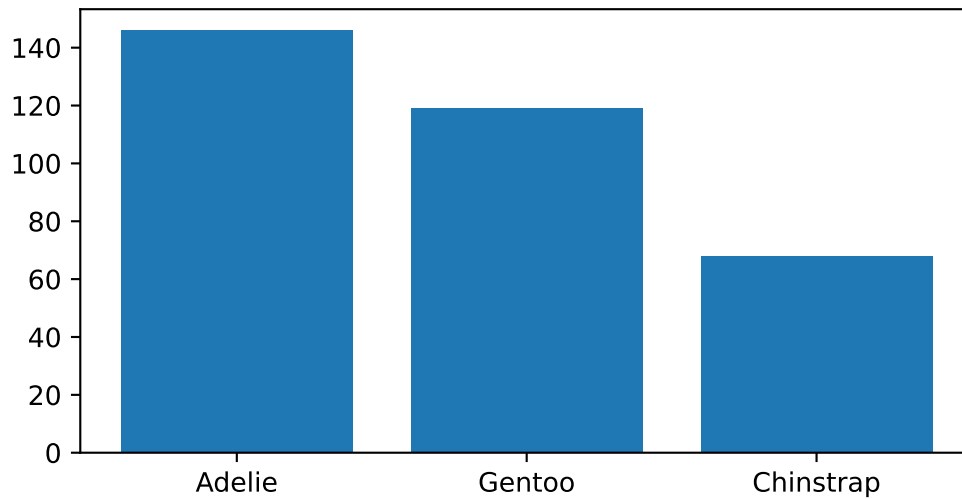
Matplotlib

```python
import matplotlib.pyplot as plt

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

plt.bar(species_counts.index, species_counts.values)
```
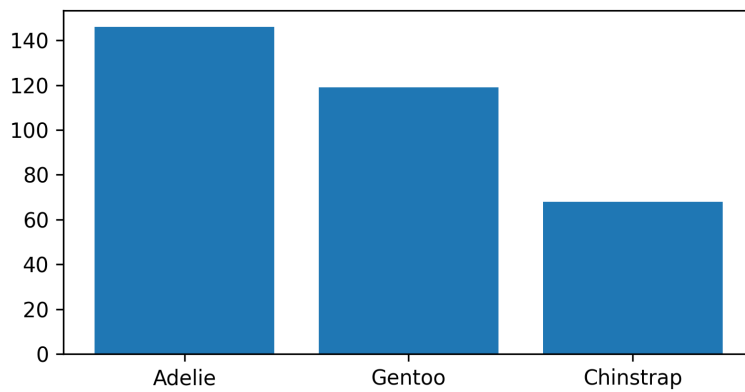
For most flexibility, save chart as an image and then use Quarto formatting of images:

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


Plotnine
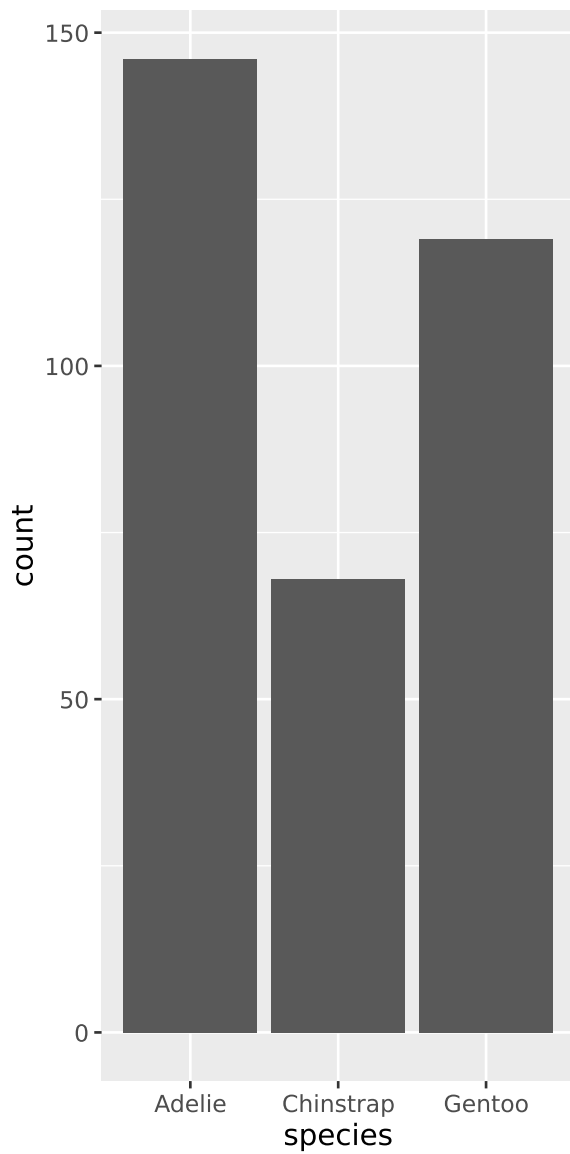
```
import plotnine as pn

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')
```

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