Week 4 worksheet

In [2]:
```
import numpy as np
import matplotlib.pyplot as plt
plt.style.use('bmh')
```

Exercise 1

> Thirty days has September,\

April, June, and November,
All the rest have thirty-one,
Save February at twenty-eight,
But leap year, coming once in four,
February then has one day more.

Plot a bar chart to show how many days each month has in a normal year. The x-axis should label each bar with the respective month and the y-axis should be labelled 'Number of days', with the height of the bar reflecting the number of days in the month.

HINT: You can type out the data and labels yourself, or if you want to be fancy, you can access them via the standard library's `calendar` module.

In [ ]:
```

```

Exercise 2

In the `data` folder of the course materials, there is a file called `mystery.csv`, whose data hold a long forgotten secret. A secret now that only a scatterplot can tell.

Load the data using numpy, and plot the first column against the second column to solve the mystery.

HINT Assuming you have `mystery.csv` in the data folder and that you have already imported `numpy as np` and `matplotlib.pyplot as plt`, you can do this in two lines of code.

In [ ]:
```

```

Exercise 3

Your European friend is intrigued by Manchester and has asked your advice on the best time of year to visit. You know that this person hates rain and loves warm days. After a quick search, you find the following data for average monthly rainfall and temperature in Manchester.

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct| Nov | Dec | |:---|---:|---:|---:|---:|---:|---:|---:|---:|---:|---:|---:|---:| | Rainfall (mm) | 70 | 50 | 60 | 55 | 55 | 65 | 65 | 75 | 70 | 95 | 80 | 80 | | Temperature (°C) | 4.5 | 4.9 | 6.6 | 8.8 | 11.8 | 14.5 | 16.4 | 16.1 | 13.8 | 10.6 | 7.2 | 4.7 |

Make a plot that you can share with your friend that will help them to decide which month to visit.

HINT: `plt.subplots` , or `plt.twinx`

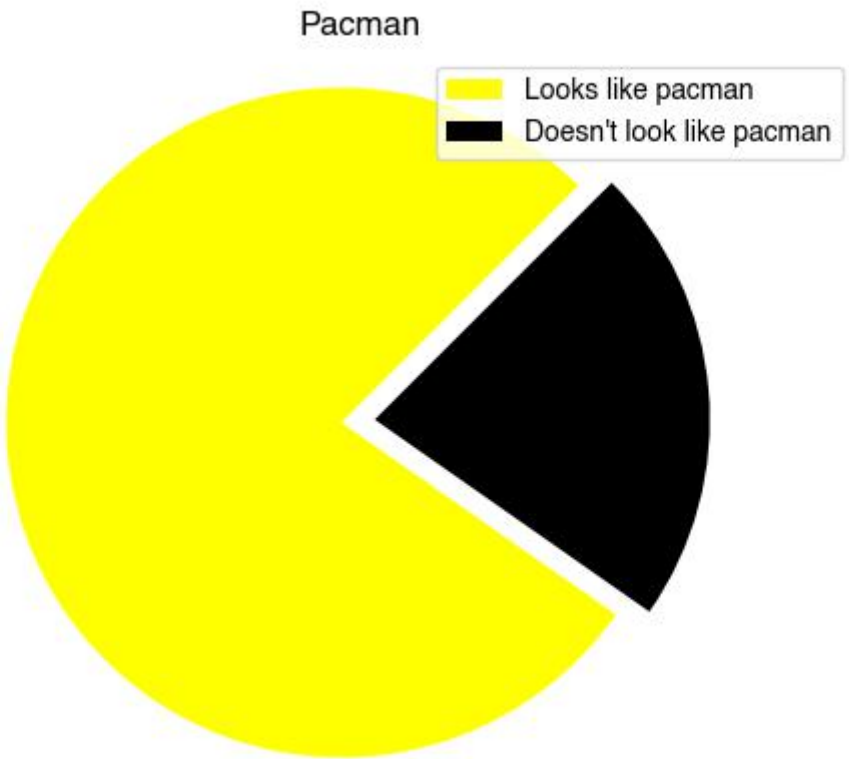
In [ ]:

Exercise 4

Here's another good use of a pie chart.

In [7]:
```
from IPython import display
display.Image('../images/pacman.jpg')
```

Out[7]:



Write the code that makes the above plot.

In [ ]: