

## Plotting sunspots

part 1. This assignment shows several interesting aspects of matplotlib. See for many examples about matplotlib: <https://matplotlib.org/examples/index.html>.

Use the file sunspots.txt file from this git repository. Import the data from this file using:

```
import numpy as np
import matplotlib.pyplot as plt
data = np.loadtxt("sunspots.txt", float)
Put the label "month" on the x axis and "number of sunspots" on the y axis.
```

part 2. Calculate the moving average of the datafile above. The moving average formula :

$$Y_k = \frac{1}{2r} \sum_{m=-r}^r y_{k+m}$$

where  $r = 5$  and  $y_k$  are the sunspot numbers. Plot the original sunspots and the moving average result in the same figure. Use blue for the original spots and red dots for the moving average result.