# Readings:

The source of the exercises proposed for this meeting is Davidson-Pilon (2016), Chapter 1, a mandatory reading for this lab. The freely available version of the chapter can be found on Github (2017).

Davidson-Pilon. (2016). Bayesian Methods for Hackers: Probabilistic Programming and Bayesian Inference. Crawfordsville, United States: Addison-Wesley.

Github. (2017). Probabilistic-Programming-and-Bayesian-Methods-for-Hackers/Chapter1\_Introduction/Ch1\_Introduction\_PyMC2.ipynb. Retrieved from <https://github.com/CamDavidsonPilon/Probabilistic-Programming-and-Bayesian-Methods-for-Hackers/blob/master/Chapter1_Introduction/Ch1_Introduction_PyMC2.ipynb>

**The following exercises are based on the model and the code presented in the lecture:**

1. **Run the programs presented in the lecture.**
2. **What is the mean of given that we know is less than 45. That is, suppose we have been given new information that the change in behaviour occurred prior to day 45. What is the expected value of $\lambda\_1$ now? (You do not need to redo the PyMC part. Just consider all instances where tau\_samples < 45.)**
3. **Extend the previous model to consider two switchpoints.**

**Problem 4. Write a (complete) PyMC program that infers the bias of a coin given 100 observations of the coin flips.**