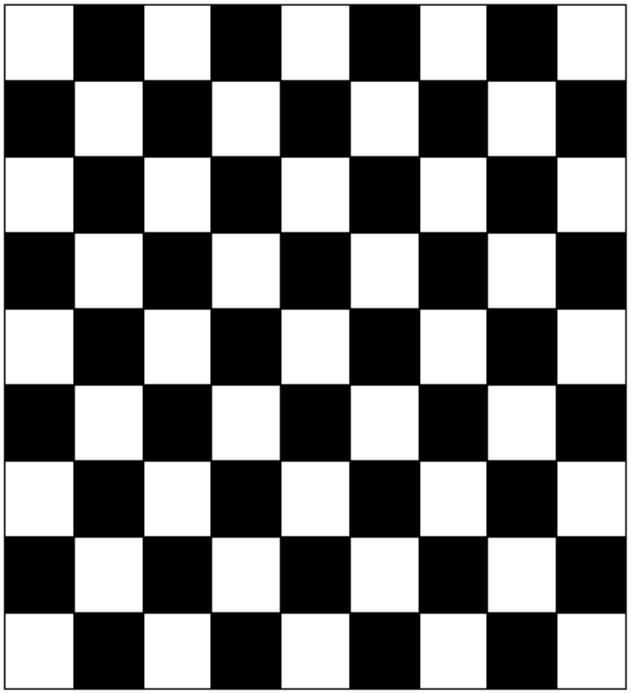
Task Description: **Software Engineer**

Responsible Author: jr

During your time at DataZoo, helping to build, e.g. AnoFox and the other products, you will often have the task to make the advanced statistics and machine learning methods more robust, more widely usable and transparent in their operation. This shift from “science” to “production” is a significant challenge. In this document we have a small software engineering task want to see how you solve the problem in code.

Task 1: Chess board

Write a Python script to create a chess board, use table width = 270px and take 30px as cell height and width. You need to output HTML in a file on the local file system which when opened in the browser looks like a chess board.



Invest some time to model the problem nicely in an object oriented programming solution.

Task 2: API Call

Get any JSON output from https://openweathermap.org/api and create a Python API which replies with the same JSON output. If the current date(day) is prime, reply with an error message "Date is prime, so no data" and with a suitable HTTP Code. As data is precious, record the API responses in a SQLite DB. The stored result should be accessible via an “`/audit`” endpoint. The API key for OpenWeathermap should be stored and loaded from a credentials.json file.

```
http://127.0.0.1:5000/api (Default take Today date from datetime)
http://127.0.0.1:5000/api/audit --> TO DISPLAY THE STORED AUDIT DATA ALONG WITH DATE.
```

If you want, spend some time on modeling the problem in a nice OO design. We would recommend using Flask to program the API.

Task 3: Dockerization

If you were successful in Task 1 & Task 2, package up your API in a docker container. If you are really, really curious, can you run this container on Azure or AWS?