Report on learning practice # 4

Stationarity of the processes

Performed by:

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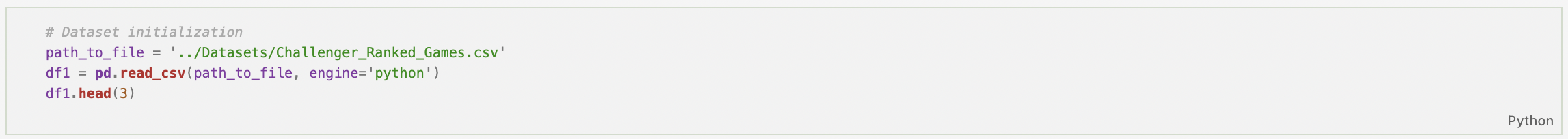
Saint-Petersburg

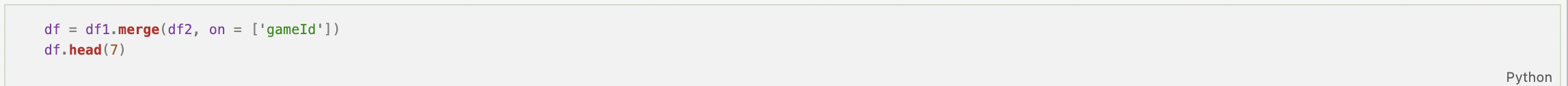
2020

**Table of contents:**

1. Substantiation of chosen sampling.

This Lab we used to have timestamps in our dataset. Dataset we used in the previous works hasn’t them. But the specialized dataset from labs 1-3 is a processed squeeze from the raw data obtained using the Riot.API. (<https://www.kaggle.com/gyejr95/league-of-legendslol-ranked-games-2020-ver1#challenger_match_V2.csv>). The original dataset contains 7Gb of practically raw data from the API. We wrote our own script for parsing timestamps from raw data and already processed dataset.

Изображение выглядит как текст

Автоматически созданное описаниеИзображение выглядит как текст

Автоматически созданное описание

*Pic.1. Timestamps parsing.*

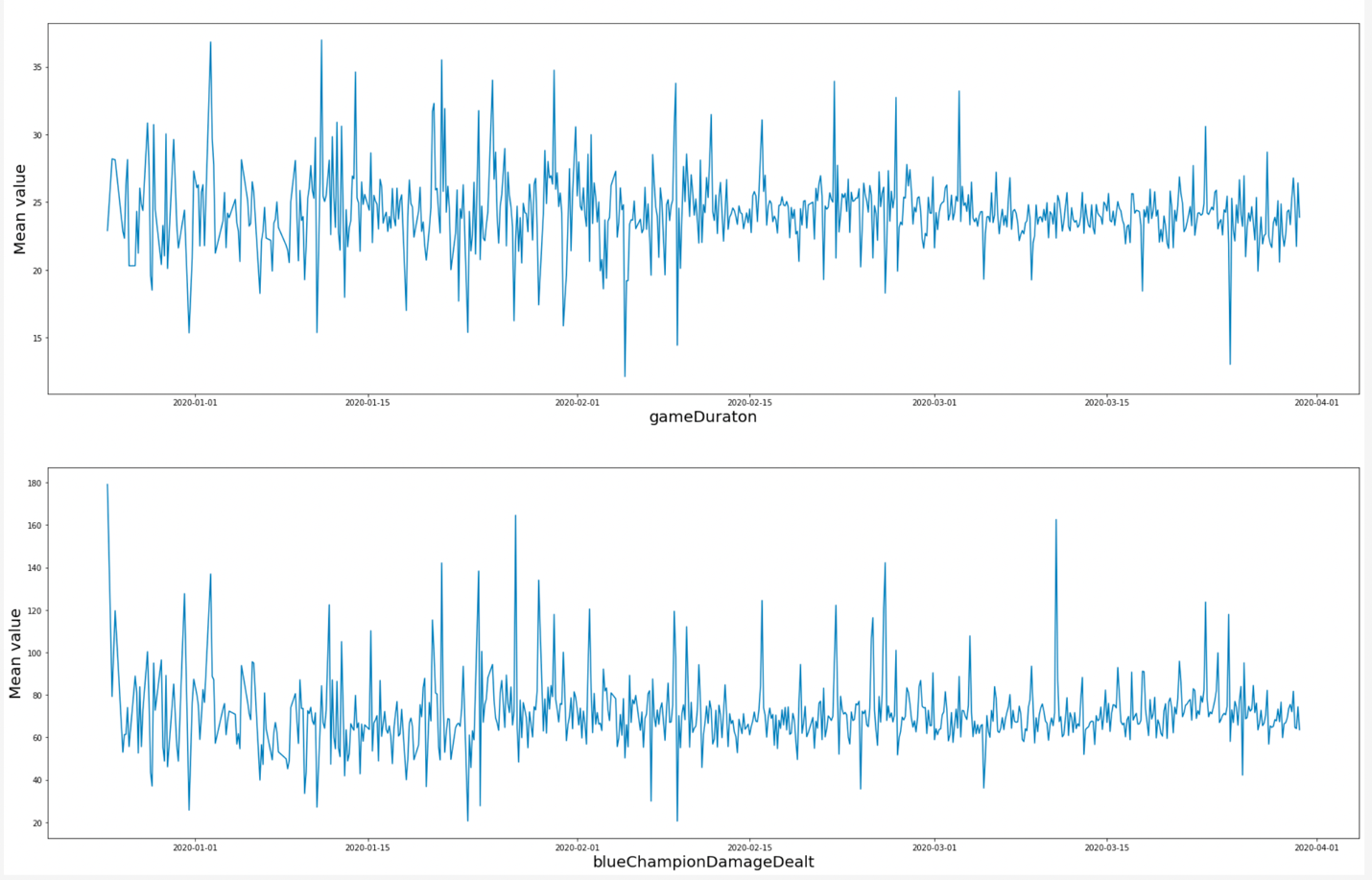
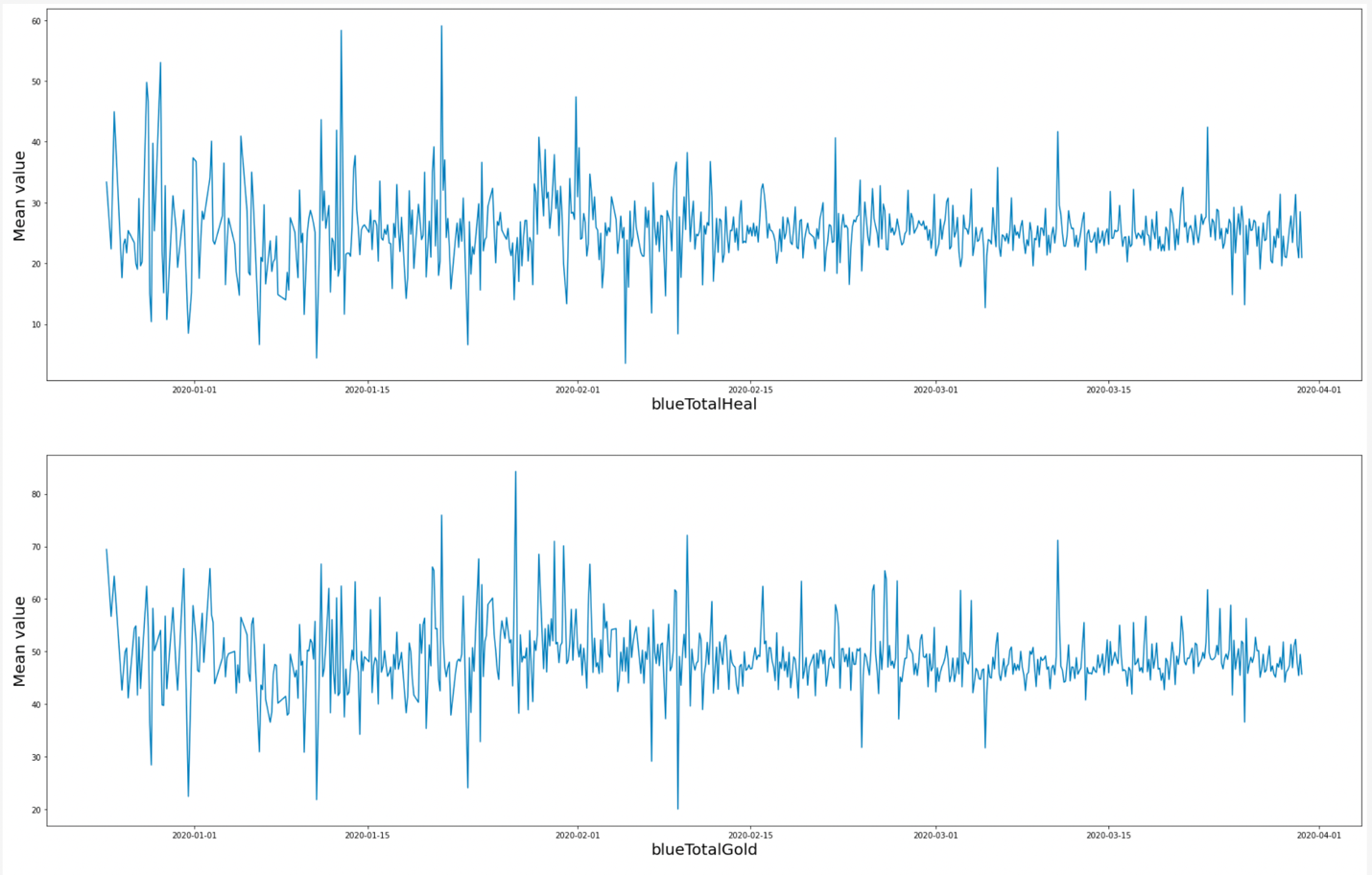
As You can see in the code timestamps are timestamps are represented as Unix-ts, so our script also convert them into default Python 3 timestamps.

Изображение выглядит как стол

Автоматически созданное описание

*Pic.2. Working dataset for lab 4 visualization.*

2. Stationary analysis.



*Pic.3. IDK something clever.*

3. Covariance or correlation function analysis.

4. Noise filtration.

5. Estimation of spectral density function.

6. Auto-regression model.

7. Model in a form of linear dynamical system.

**Sourcecode:**

* The full repository with all the labs: <https://github.com/vandosik/M-M-MSA>
* The repo with Datasets and additional used Data info: <https://github.com/vandosik/M-M-MSA/tree/master/Datasets>
* The Lab 4 ipynb file: <https://github.com/vandosik/M-M-MSA/blob/master/Lab_4/lab_4.ipynb>

We recommend to use the first link because our GitHub project has README file with similar links and instructions which is really easy to use.

Изображение выглядит как текст

Автоматически созданное описание