Predictive Modelling

Home assignment 2.

**Deadline extended: November 1, 23.59**

1. Find the dataset with time series. Check whether somebody has already chosen this data [here](https://docs.google.com/spreadsheets/d/1XgAQEstmYiOr0osYWMi5tOb-sb8WhbAVArmA1LXNwss/edit?usp=sharing) and write about your own data. You are not allowed to use the same dataset if somebody has chosen it already.
2. Plot the time series. Split the data into the train and test datasets (take last values for the test data).
3. Check whether your time series has seasonal component or not.
4. Use Box–Jenkins method:
   1. Determine whether the time series is stationary and make differencing to achieve stationarity if needed.
   2. Identify the order (i.e. the p and q) of the autoregressive and moving average terms.
   3. Find the estimates of the model.
   4. Make the model diagnostics and examine the residuals.
   5. Iterate steps b-e if needed and find the best model.
5. Make a prediction. Check your results on the test data and describe results.

The home assignment should be downloaded to the LMS system or sent to legorova@hse.ru.