Practical Session 5
Univariate stationary models

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1. Import the dataset in rus_data.csv. Do not remove the time column. Try to convert the series to a `ts` object. Print the structure of your object. What is the class of the core matrix values? Why? Uncomment the removing line and rerun the code. What is the class of the core matrix values? Why?
2. Import the dataset in gas.csv. Convert it to a ts object.
3. Create a new variable $dlempl = 100(log(empl_{manif,t}) - log(empl_{manif,t-1}))$, where $empl_{manif,t}$ is the first column in the time series set of Russian data. For taking a difference use the function `diff()`.
4. Make a plot of dlempl using the `autoplot()` function.
5. Make the plots of ACF and PACF functions for dlempl. How many AC and PAC values are utside of the confidence intervals?
6. Estimate several ARMA models with different combinations of AR and MA lags.
7. Estimate an ARMA model with automatic selection of AR and MA lag orders.
8. Repeat steps 2-7 for the 12th differenced variables (use the function `diff(..., 12)`.