

RTP Exercise Sheet

Series 9

Exercise 9.1

In this exercise, we look at the time series **prodn**, which is available in the package **astsa**. It contains monthly data about the Federal Reserve Board Production Index from 1948-1978, in total the time series contains data for $n = 372$ months.

- Plot the time series. What kind of non-stationarity is evident?
- How can the time series be made stationary?
- Based on your considerations in b), what kind of model would you fit to the original time series **prodn**? Try different fits and choose your favourite.

R-Hint:

```
arima(..., order = c(..., ..., ...), seasonal = c(..., ..., ...))
```

Disclaimer: Parts of the exercises are adopted from 'Applied Time Series Analysis' course at ETHZ by Marcel Dettling.