

Homework 2

October 28, 2024; due November 4, 2024

Solutions must be written in a single file (.R or .pdf) and delivered via Moodle.

1. The **hours** dataset of the **TSA** package contains average hours worked (times 10) in the U.S. manufacturing sector for each month between July 1982 and June 1987. Plot the correlogram. Is there any evidence of autocorrelation? Explain.
2. Exercise 4, Section 3.7 of Hyndman & Athanasopoulos (2021). Set the seed equal to your Student ID number.
3. The **labour** dataset of the **fma** package contains the number of persons in the civilian labour force in Australia each month (Feb 1978 - Aug 1995).
 - a) Check the features of the series by means of time, seasonal and subseries plots, and via a correlogram. Comment the results.
 - b) (i) Do you think it is worth applying a Box-Cox transformation? Why?
(ii) Regardless of your answer, apply the transformation using the **guerrero** feature and plot the transformed time series. Does the plot confirm your answer to (i)?