Advanced Econometrics 2 Assignment 1 Problem 4

Brian DeVoe

2024-02-13

Problem 4a

$Y_t = X_t - u_t = \phi_1(X_{t-1} - u_{t-1}) + \phi_2(X_{t-2} - u_{t-2}) + ... + \phi_p(X_{t-p} - u_{t-p}) + \epsilon_t$

$\rightarrow X_t = \Sigma_{i=1}^{p}\phi_i X_{t-i} + \Sigma_{i=1}^{p}\phi_i u_{t-i} + \epsilon_t + u_t$

The first series is AR(p) and the second series is MA(p), so we have an ARMA(p,p) process.

Problem 4a