

Exercise 3.1.2

$$p_k = \frac{-\theta_k + \sum_{j=1}^{q-k} \theta_j \theta_{j+k}}{1 + \sum_{j=1}^q \theta_j^2}$$

$$, \theta_1 = -0.2, \theta_2 = 0.48$$

$$p_0 = 1$$

$$p_1 = 0.08186$$

$$p_2 = -0.37783$$

$$p_3 = 0$$

Exercise 3.1.3

$$p_k = \phi_1^{|k|}$$

$$p_0 = 1 ; p_1 = (-0.7)^1 = -0.7 ; p_2 = (-0.7)^2 = 0.49 ;$$

$$p_3 = (-0.7)^3 = -0.343 ; p_4 = (-0.7)^4 = 0.2401 ; p_5 = (-0.7)^5 = -0.1681$$

$$p_6 = (-0.7)^6 = 0.1176 ; p_7 = (-0.7)^7 = -0.0824 ; p_8 = (-0.7)^8 = 0.0576$$

$$p_9 = (-0.7)^9 = -0.0404 ; p_{10} = (-0.7)^{10} = 0.0282 .$$