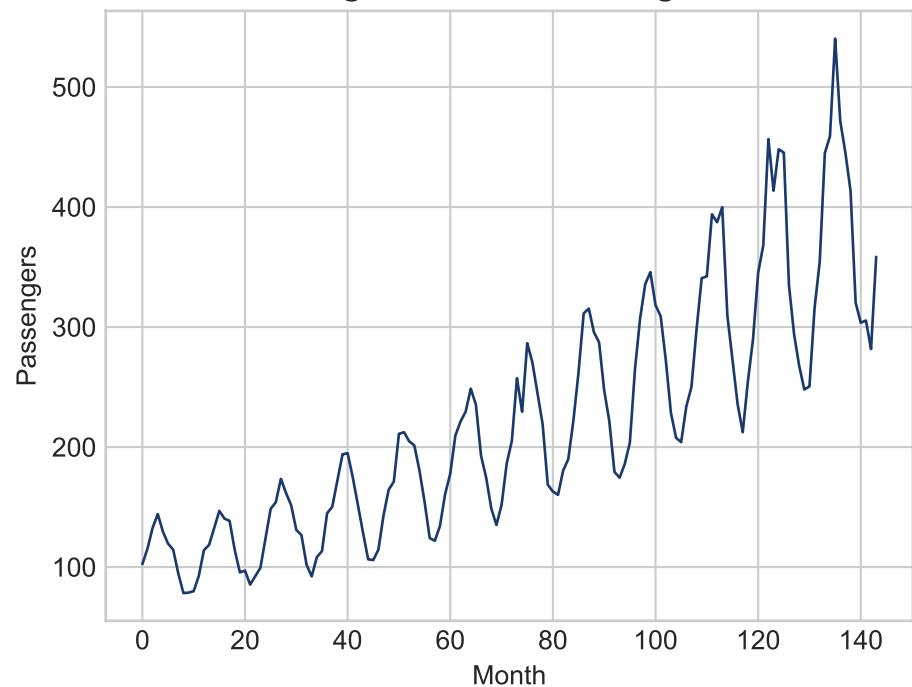
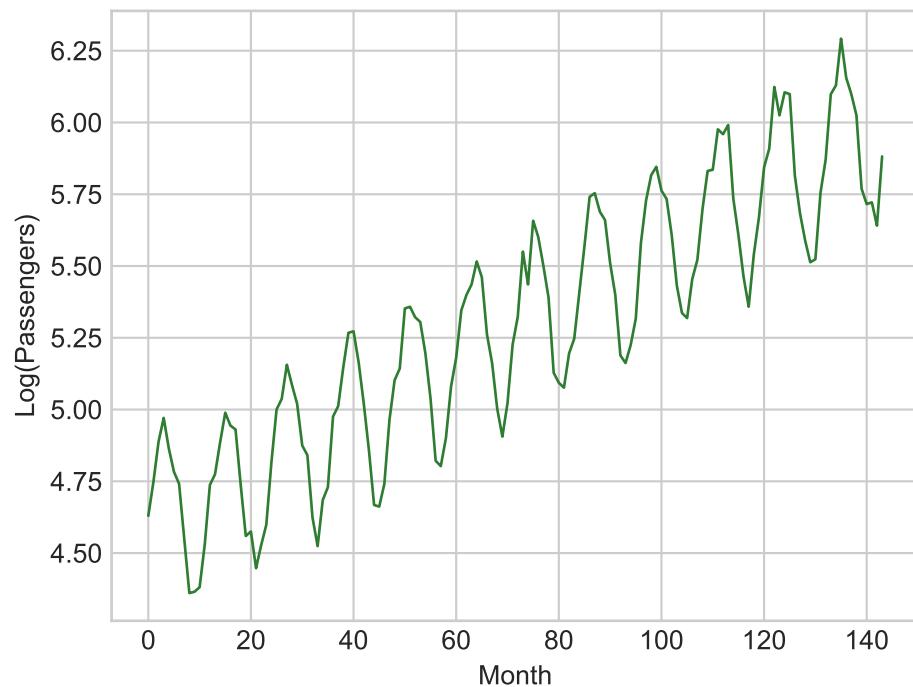


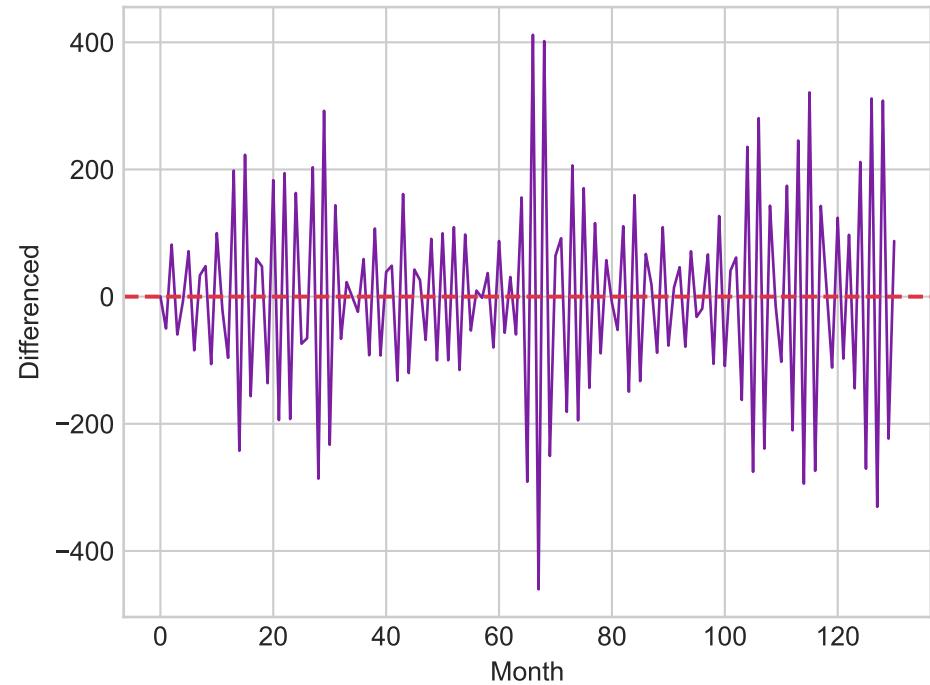
### Original: Airline Passengers



### Log Transform: $\log(Y_t)$



### $(1 - L)(1 - L^{12})\log Y_t$ : Stationary!



### The Airline Model

SARIMA( $0, 1, 1 \times (0, 1, 1)_{12}$ )

$$(1 - L)(1 - L^{12})Y_t = (1 + \theta L)(1 + \Theta L^{12})\varepsilon_t$$

Only 2 parameters:  $\theta$  and  $\Theta$

### Why famous?

- Fits many seasonal economic series remarkably well
- Extremely parsimonious (just 2 parameters)
- Box & Jenkins (1970) airline passenger data