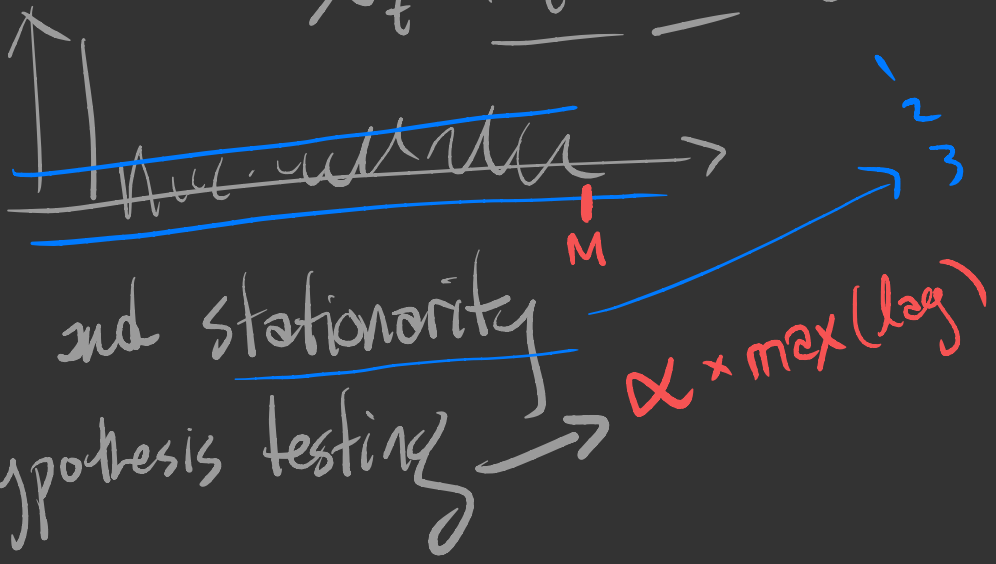
3 stars - the Terrace

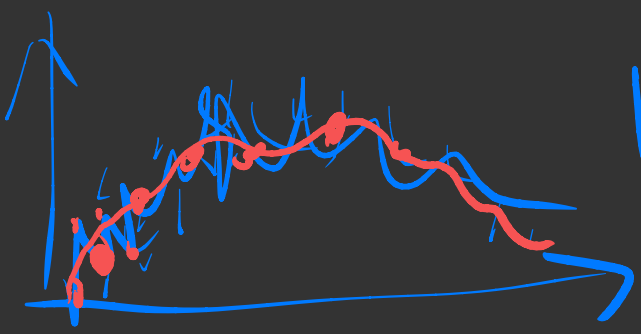
$$x_t = m_t + s_t + Y_t$$

1. Trends
2. seasonality
3. ACVFs/ACFs and stationarity
4. White noise hypothesis testing



→ Know your trend elimination techniques
- Poly regression, MA smoothers, Expo smoothers

→ Harmonic Regression and SI method



Low-pass filters like MA smoothers

3 stars in the Fountain

1. Linear Filters and Proposition 2.2.1
2. Causality
3. MA(q)
4. AR(p)

→ what do our ACVFs (ACFs) look like?

→ Vocab: linear processes / causal filters

Y_t zero-mean, stationary w/ $\gamma_Y(h)$

↓

X_t zero-mean, stationary, know the ACVF γ_X in terms of γ_Y

* know what happens when Y_t is $wn(\sigma_Y^2)$

Calculation: I give you a series

1) is it stationary?
2) if yes → calculate γ_X
   if no → did the filter eliminate the (seasonal) trend?