Drug A

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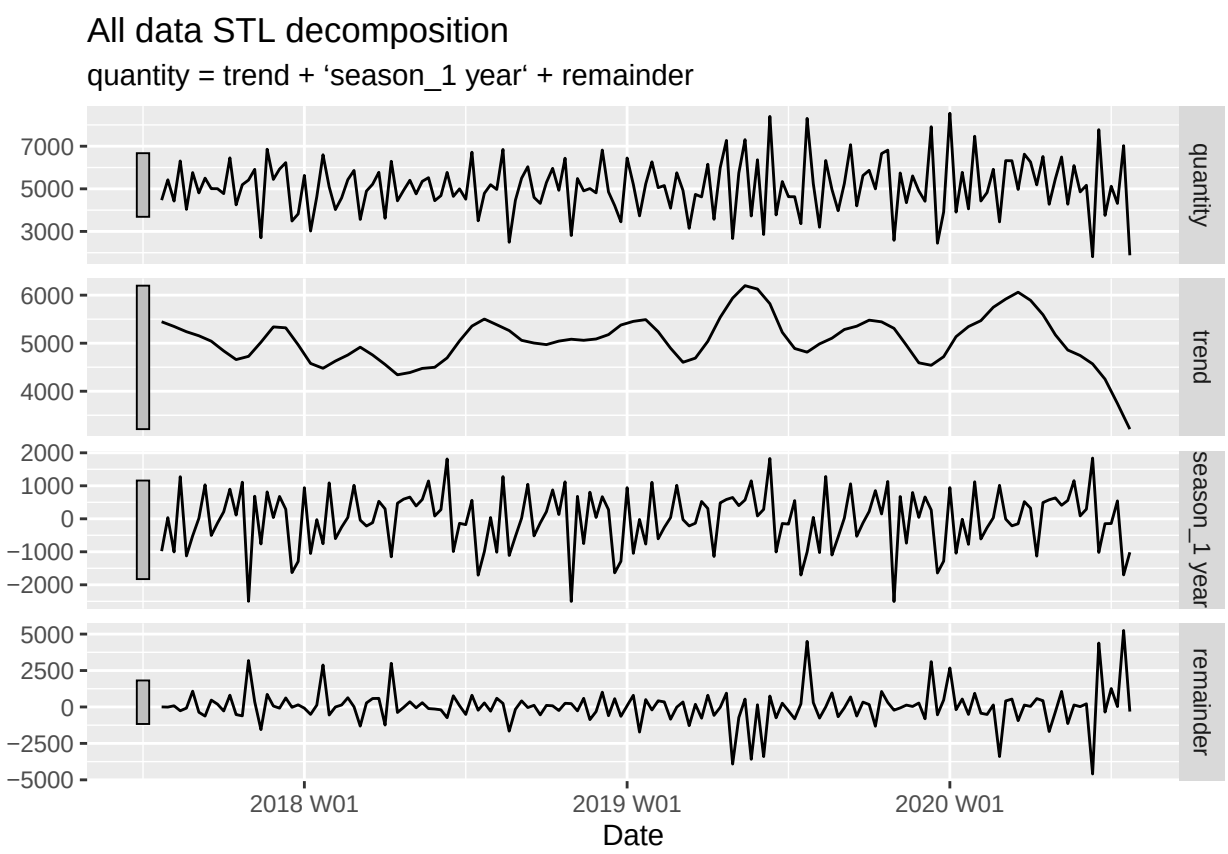
Introduction

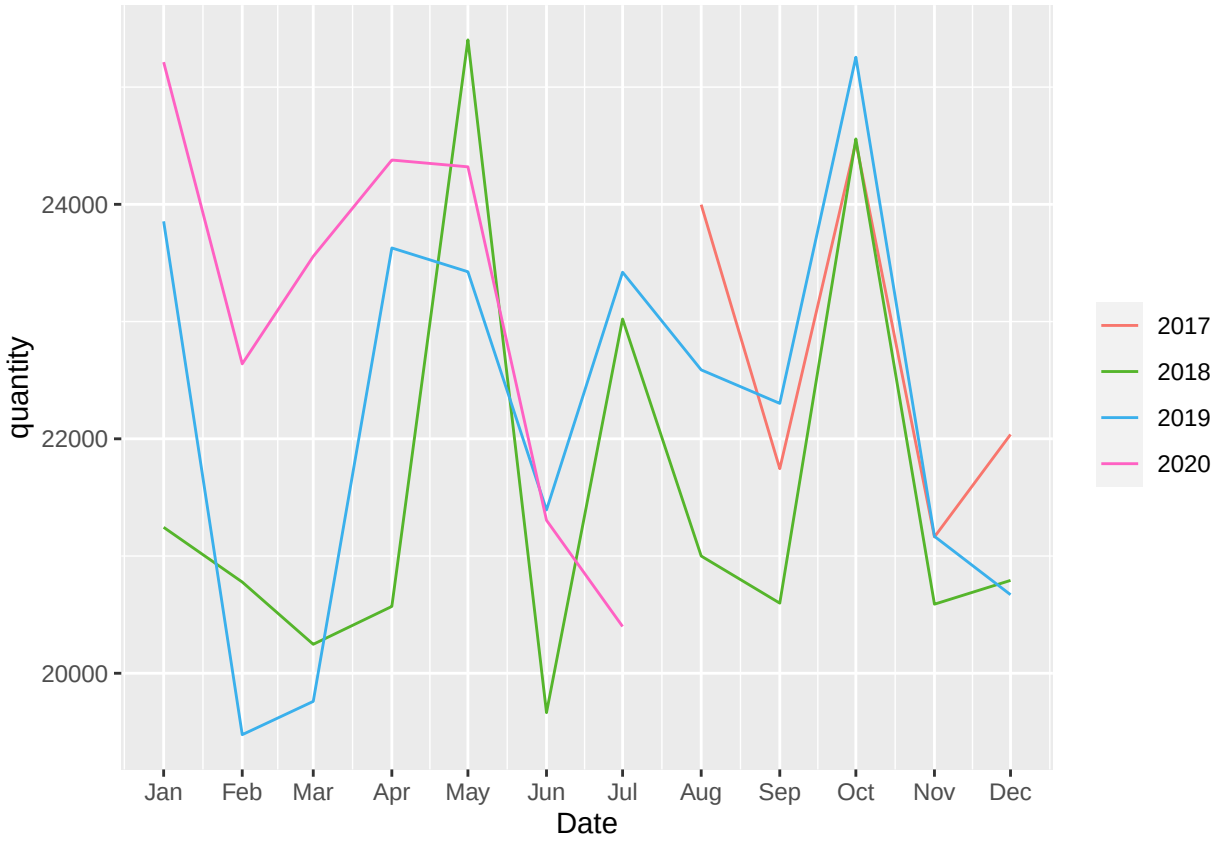
Methods

- SES
- ARIMA
- (More to be added)

Summary

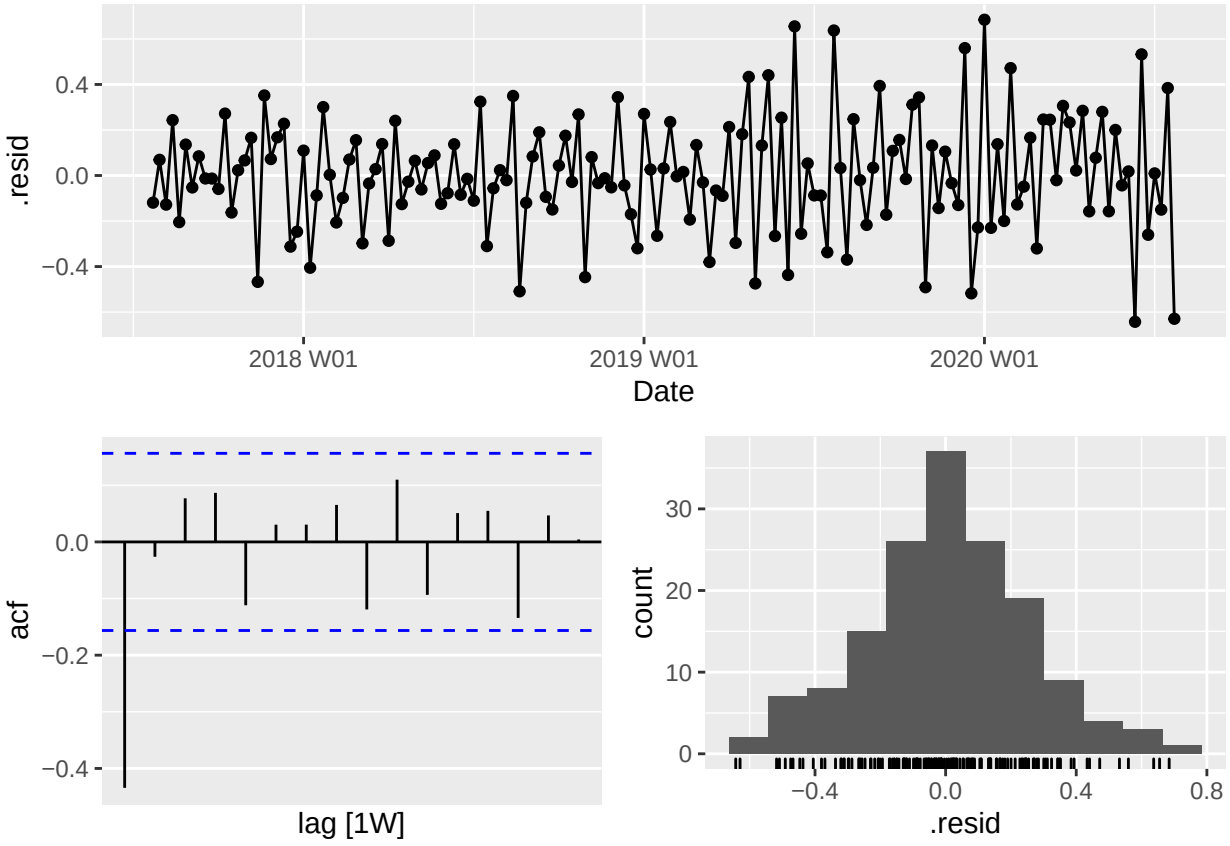


Yearly seasonality



Simple exponential smoothing

.model	term	estimate
ETS(quantity)	alpha	0.0001001
ETS(quantity)	l	5074.1335082

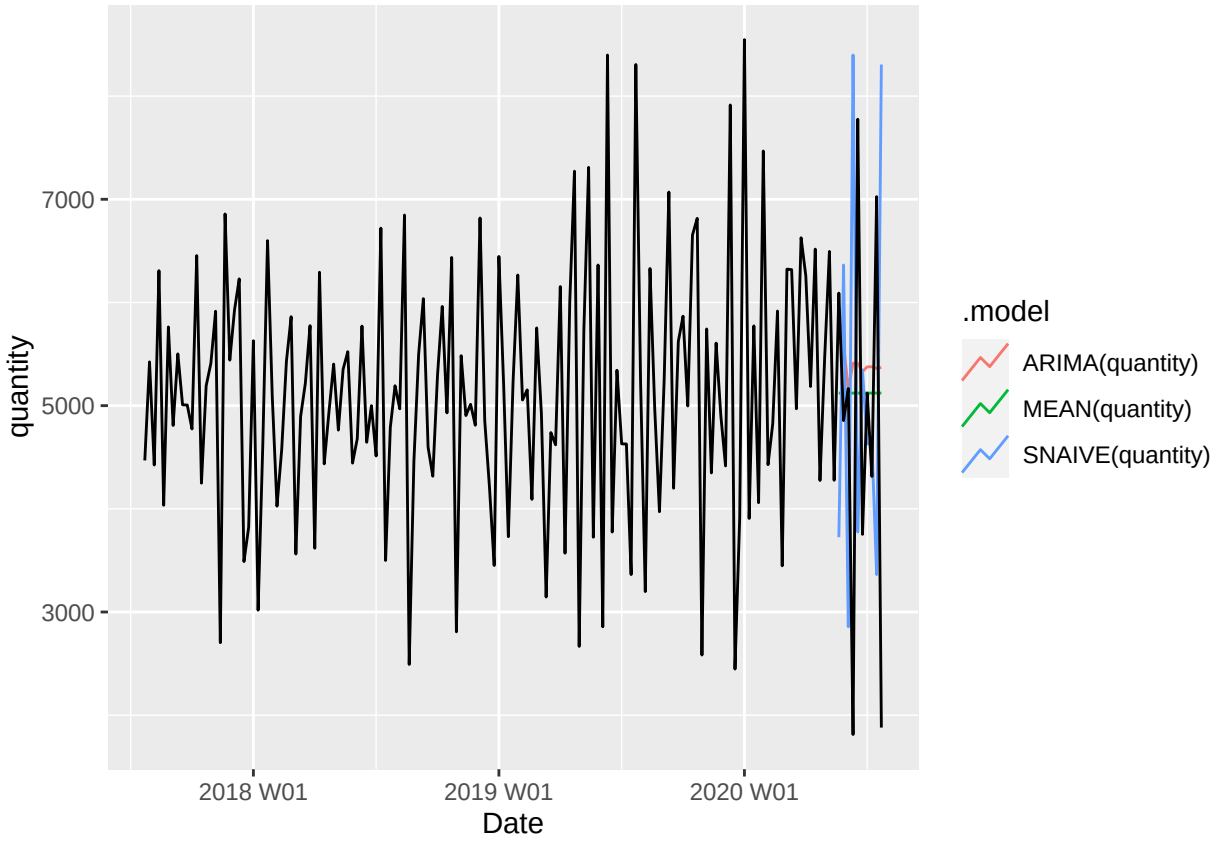


Ljung Box test for autocorrelation of residuals

.model	lb_stat	lb_pvalue
ETS(quantity)	45.99039	1.4e-06

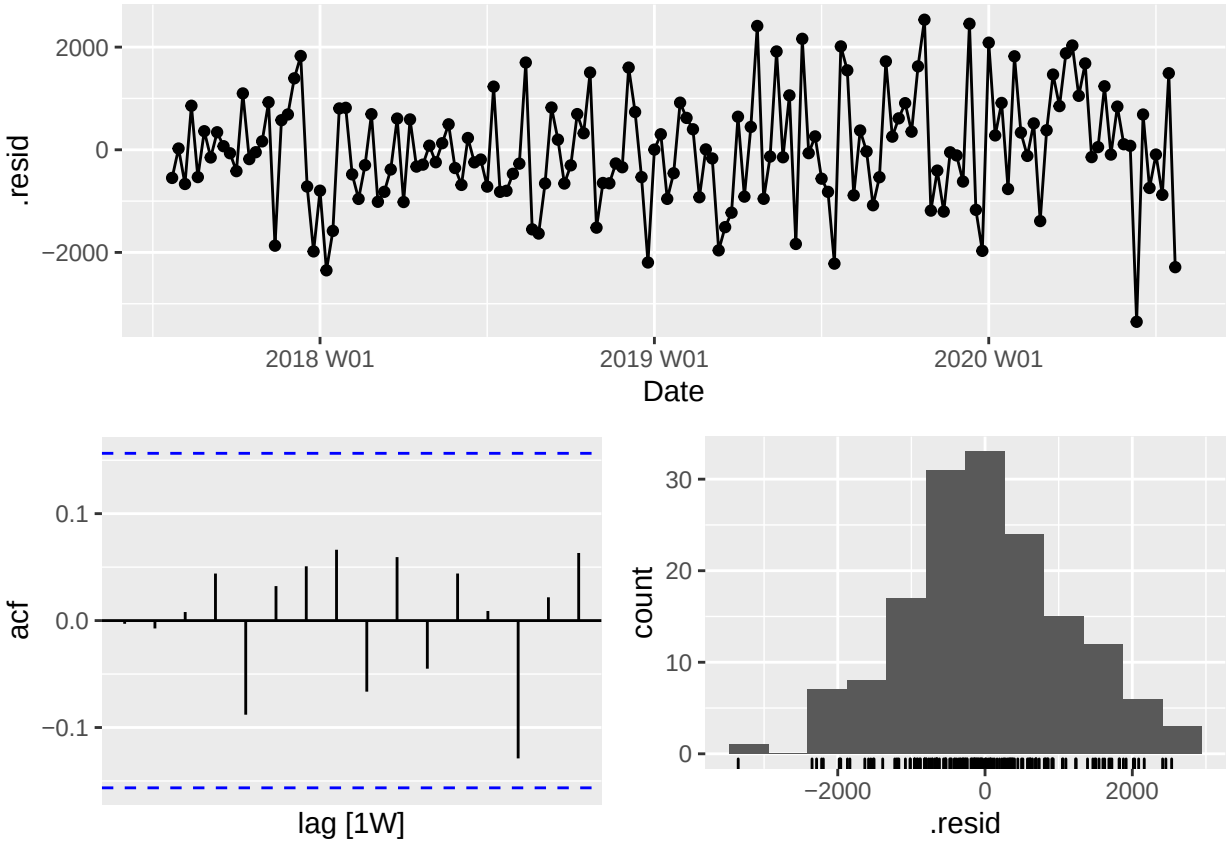
Residuals show autocorrelation (p<.05)

ARIMA



Model terms

.model	term	estimate	std.error	statistic	p.value
ARIMA(quantity, approximation = FALSE)	ma1	-0.5858925	0.0799270	-7.3303475	0.0000000
ARIMA(quantity, approximation = FALSE)	ma2	0.0648813	0.0922993	0.7029447	0.4831313
ARIMA(quantity, approximation = FALSE)	ma3	0.1116288	0.0726973	1.5355293	0.1266667
ARIMA(quantity, approximation = FALSE)	constant	5108.5342181	51.4568550	99.2780111	0.0000000



Ljung Box test for autocorrelation of residuals

.model	lb_stat	lb_pvalue
ARIMA(quantity, approximation = FALSE)	8.672345	0.5634557

No autocorrelation of residuals (p>.05)

Forecast accuracy

.model	.type	ME	RMSE	MAE	MPE	MAPE	MASE
ARIMA(quantity)	Test	-620.99	1947.7	1522.3	-40.891	53.281	1.2254
MEAN(quantity)	Test	-342.23	1888.5	1456.5	-33.762	49.362	1.1724
SNAIVE(quantity)	Test	-359.30	3607.6	2925.3	-58.900	98.245	2.3547