Multi-step forecasting

Recursive approach

Multi-step forecasting

Time	Sales (UK)	
2020-02-12	35	
2020-02-13	30	
2020-02-14	23	⋮
2020-02-15	21	
2020-02-16	40	$t-2$
2020-02-17	31	$t-1$
2020-02-18	?	t
2022-02-19	?	$t+1$
2022-02-20	?	$t+2$

We want to predict / forecast

multiple steps ahead.

Recursive forecasting

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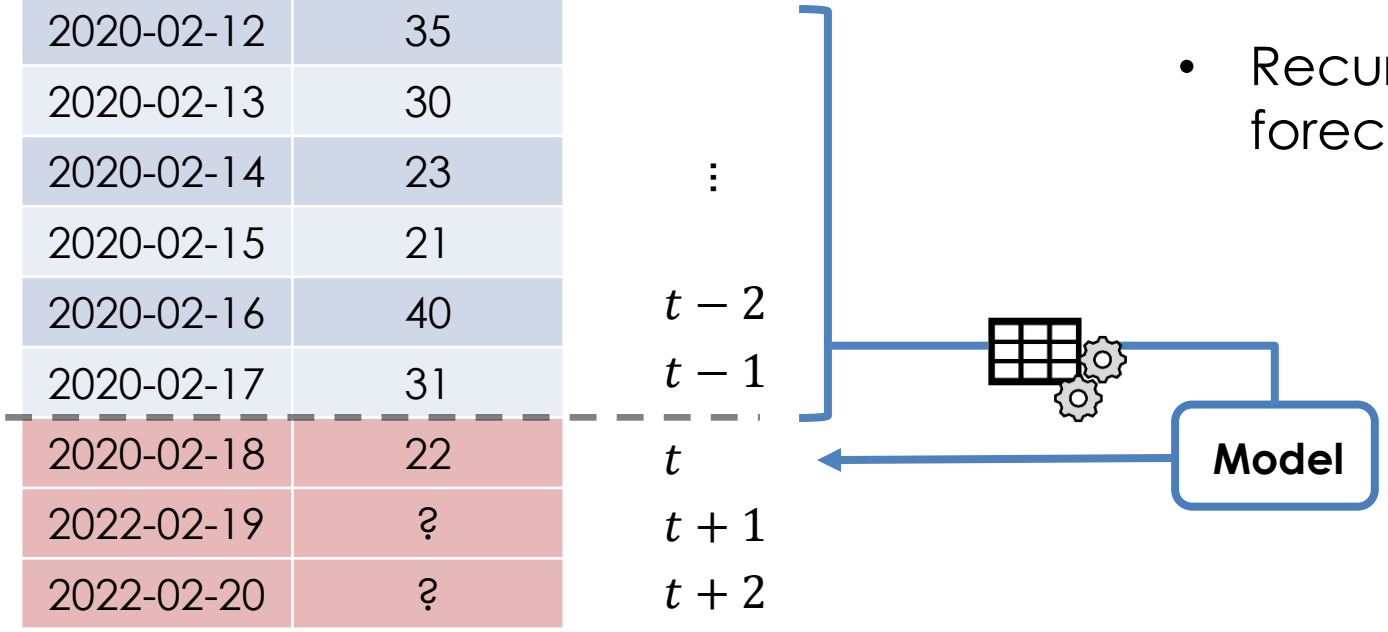
2020-02-13	30
2020-02-14	23
2020-02-15	21
2020-02-16	40
2020-02-17	31
2020-02-18	22
2022-02-19	?
2022-02-20	?



- Use forecasted output as new input.
- Recursively apply a 1-step ahead forecast model.

Recursive forecasting

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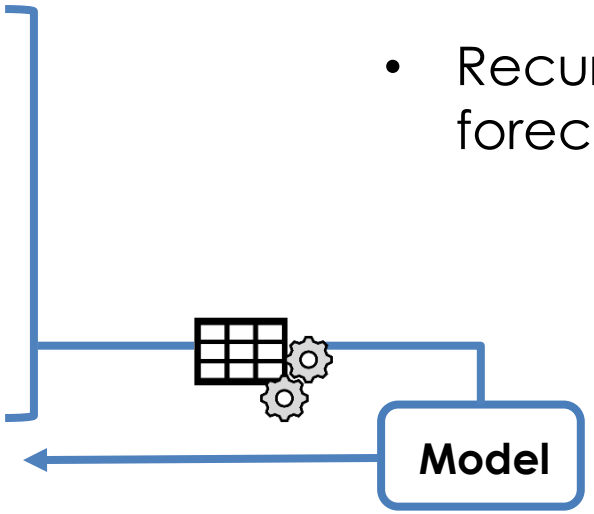
2020-02-17	31
2020-02-18	22
2022-02-19	?
2022-02-20	?



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Recursive forecasting

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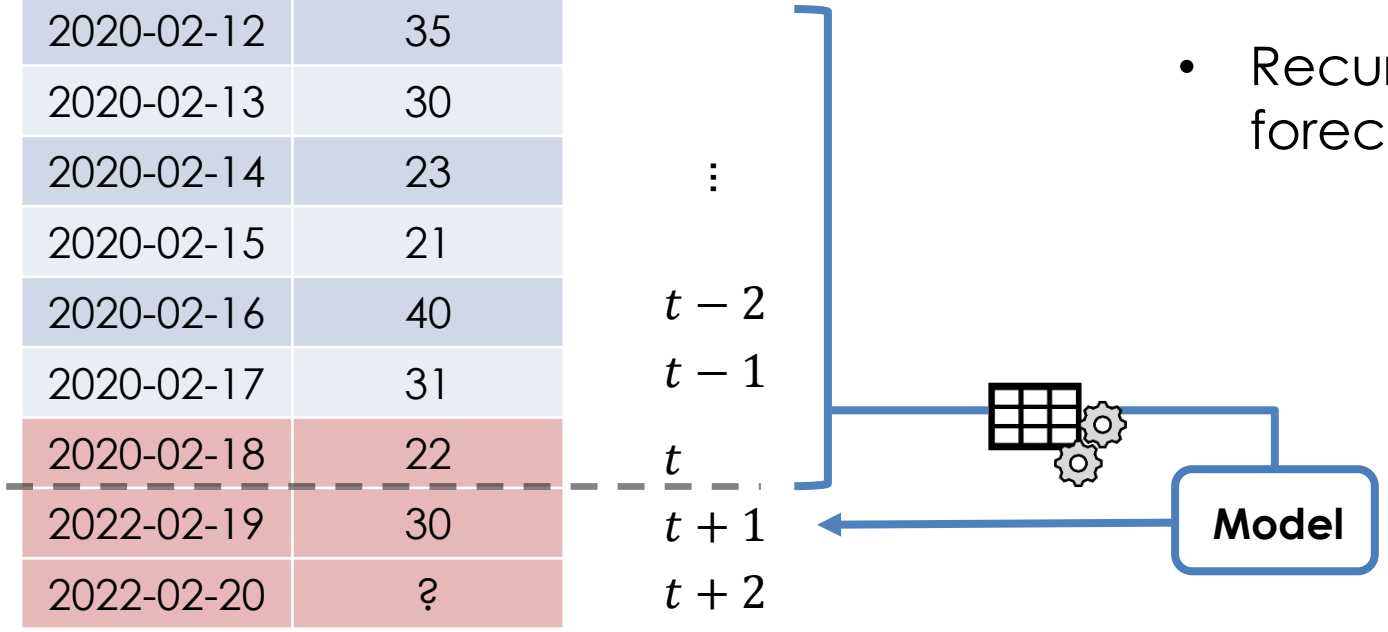
2020-02-18	22
2022-02-19	30
2022-02-20	?



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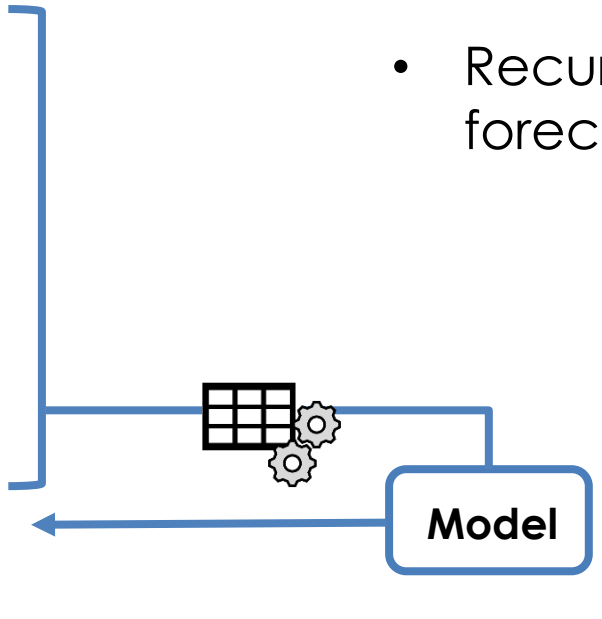

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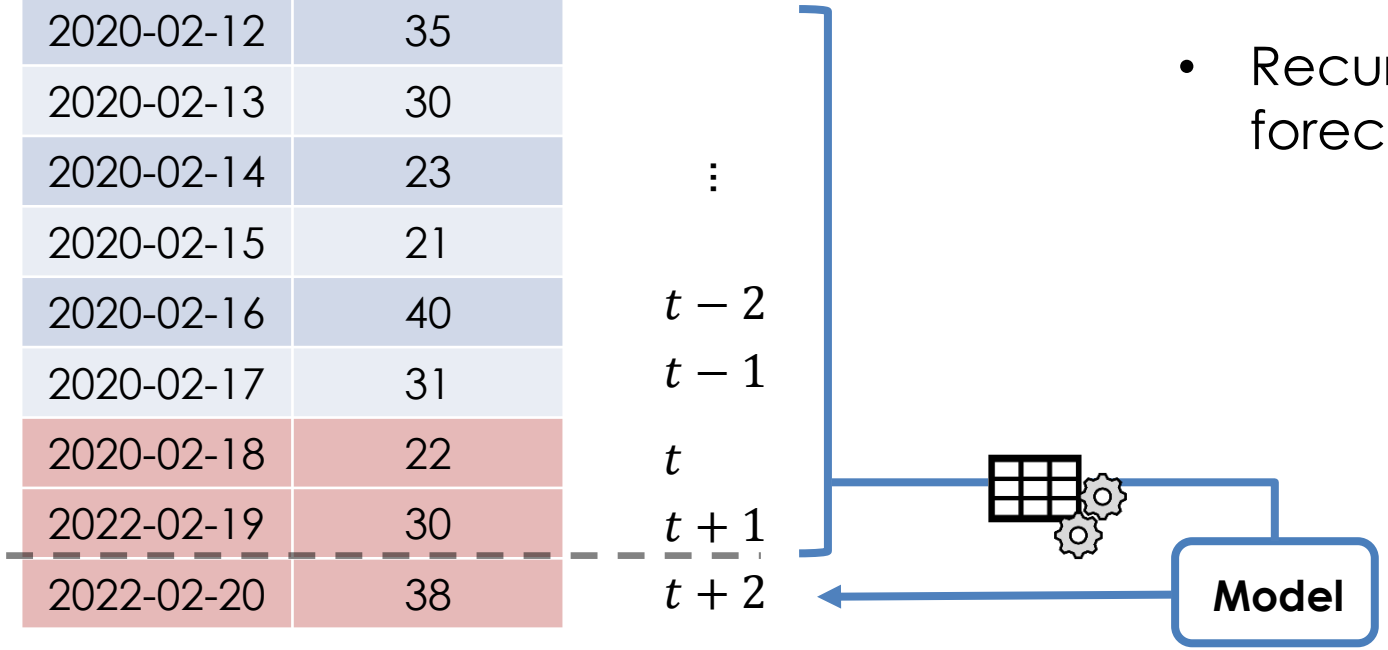
2020-02-18	22
2022-02-19	30
2022-02-20	38



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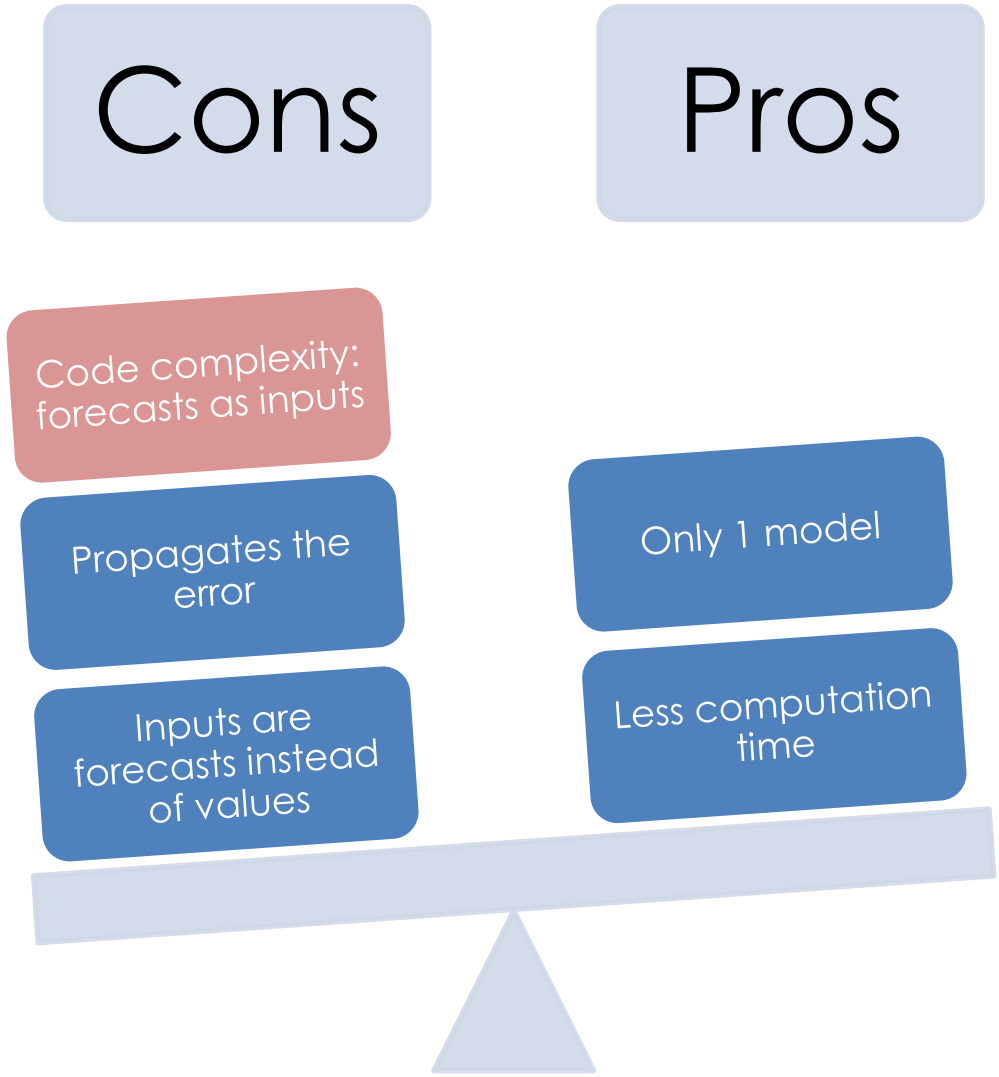
Multi-step forecasting: recursive strategy

- Only 1 time series model.
- Each forecasting point is estimated using previous forecasts.

- **More code to take the forecasts as inputs, and re-create the features.**