Homework 3

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Implementation

I use the polynomial curve fitting.

The α and β is fixed.

In order to determine the M, I first calculate residual sum of squares(**RSS**) for N points, for $M \in [4, 13]$

$$RSS = \sum_{i=1}^{n} (y_i - \hat{y}_i)^2$$

And then I choose the M that has minimum RSS.

And finally I use this M for curve fitting and prediction.

Result

Note: my stock data are from 2019-02-21 09:30:00 to 2020-03-02 09:30:00, interval is one day

Stock	Absolute Error	Relative Error
NVDA	12.08291	0.05088
AMD	2.192443	0.045352
BABA	7.762001	0.035995
KO	0.611379	0.01068
DIS	5.674601	0.039255
AMZN	56.52476	0.02937
BILI	1.23648	0.055725
NTES	11.22848	0.034946
GOOG	38.99946	0.027195
INTC	2.059722	0.033429