

HW1 Stock price prediction report

GOAL:

We are asked to implement regression to finish this homework. Use one company to predict another one. MTK and TSMC have consistency in many ways. So they might have some kind of correlation, if we could found out then we use this function to predict the right stock prices.

Observation:

There is one thing we need to know that regression is best for data which have linearity.

There is line chart between two company in 2021/09



Indeed, there is correlation between them you can tell from the line chart. But stock price may involve not just one single factor, and we could not find them all. Therefore, I use polynomial regression with degree of 2 and tried to close to the curve.

MAPE:

I try to use 2021/09 data, and split to 1~10 for train, 11~20 for test.

```
MAPE is: 3.722507663213448
[['2021/9/15' '613']
 ['2021/9/16' '612']
 ['2021/9/17' '612']
 ['2021/9/22' '620']
 ['2021/9/23' '618']
 ['2021/9/24' '616']
 ['2021/9/27' '611']
 ['2021/9/28' '611']
 ['2021/9/29' '619']
 ['2021/9/30' '622']]
```