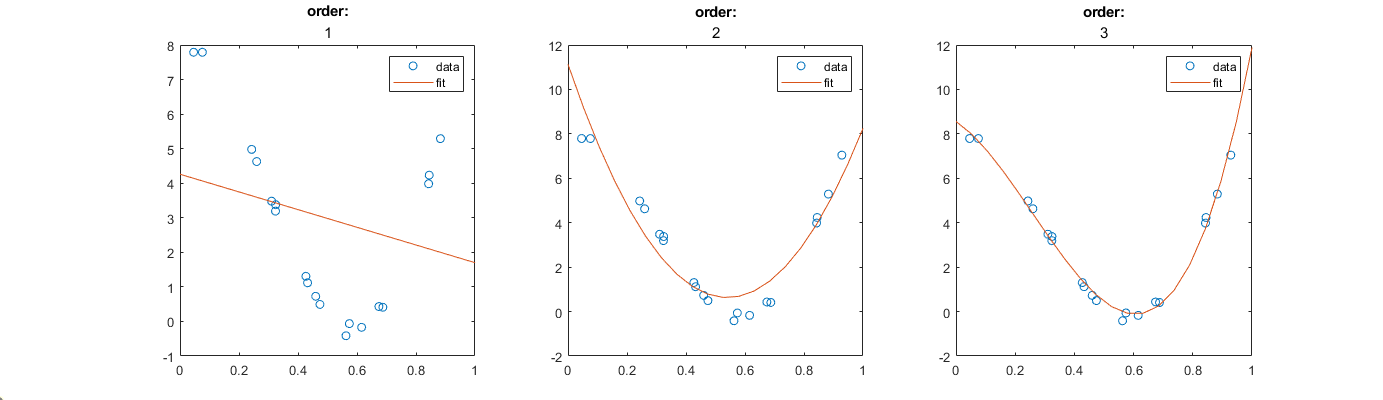
Name: 黃廷睿

ID: r11631026

**Problem 1 (Regression).**

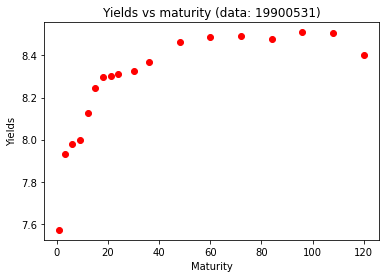
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|  |
| --- |
| **Order: 1** |

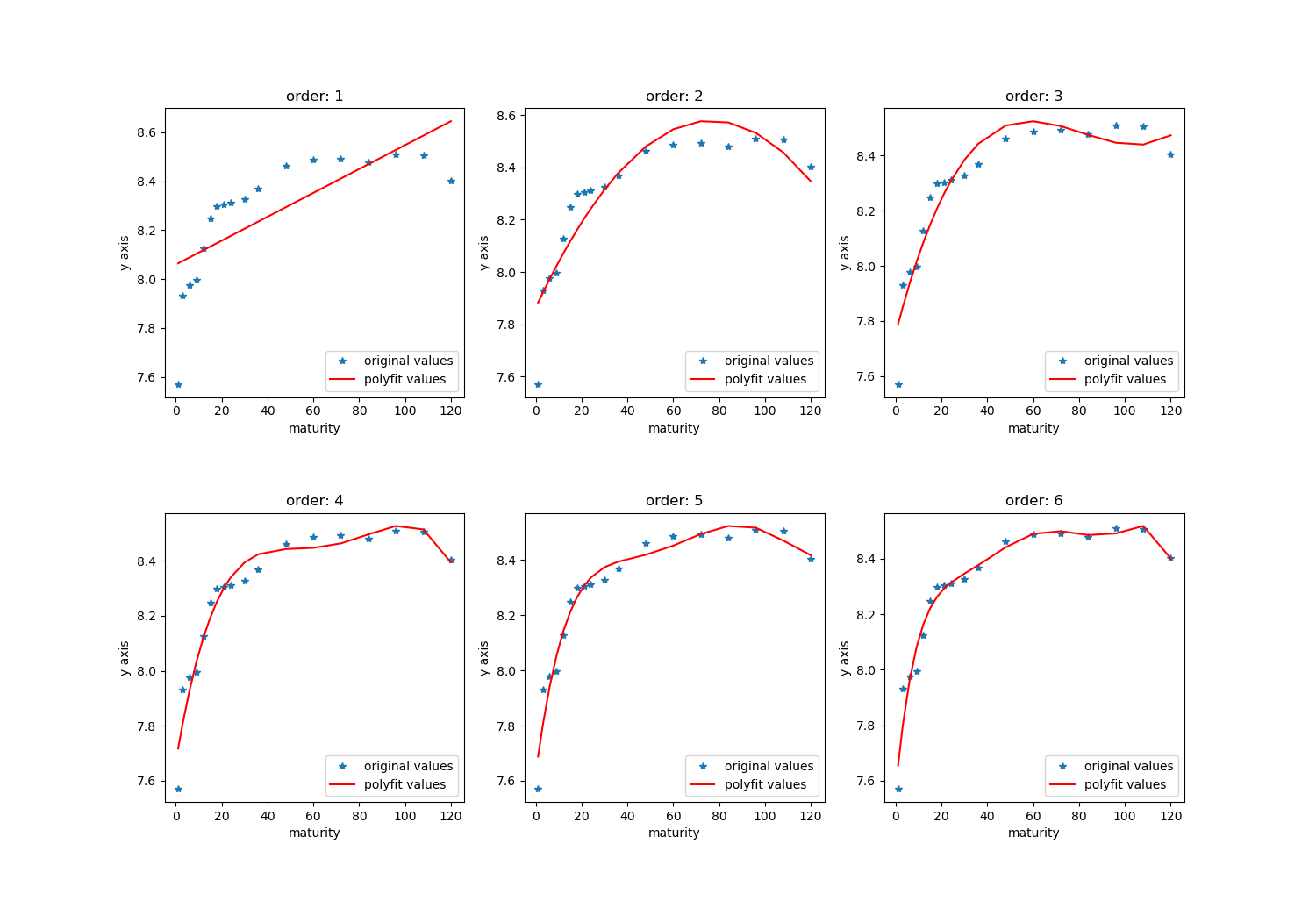
|  |
| --- |
| **Order: 2** |
| **Order: 3** |

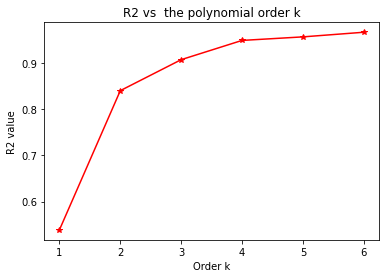
**Problem 3 (Residue analysis)**

1. Generate a scatter plot of the yields vs maturity. Comment on the figures.

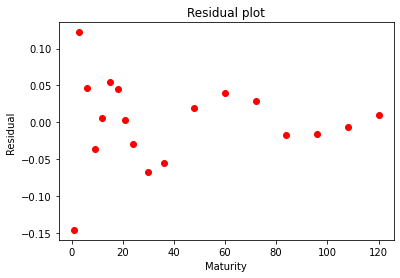


1. You want to fit a polynomial regression model to the data. Since you don't know the order you need, you fit six polynomial models, with orders from 1 to 6. Plot the 𝑅2 vs the polynomial order 𝑘. Comment on the result.





1. For the 4th-order polynomial model, draw a residual plot (vs maturity). Comment on it.



1. Draw a histogram and a quantile-quantile (Q-Q) plot of the residuals. Comment on it.



