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## EE325 Introductory to Econometric Semester 2/2017

### Instruction

1. You are freely allowed to discuss the problems with your colleagues, but you must complete and submit the finished problem set **individually**.
2. If you have any questions, please send me an e-mail at pwrasai@gmail.com
3. Due date: Tuesday 6<sup>th</sup> March 2018 **BEFORE THE LECTURE BEGINS!**

Name \_\_\_\_\_ Surname \_\_\_\_\_ Student No. \_\_\_\_\_

Suppose you want to test the effect of age on monthly average income based on the hypothesis that older people should have higher earning by using simple regression model. So you collect the personal data from the "Labour Force Survey" of year 2016. The data set includes 4 variables: *age*, *approx*, *bonus*, *ot*, *oth\_money*. The information of these variables are in the data file "data hw2".

### Assumptions

1. Assuming there is no outlier and any missing data are occurred at random. And you decide to drop all missing data.
2. Monthly average income is calculated by summing monthly average income from salary, bonus, working overtime and other source of income.

### Questions

1. Please write down the regression model.
2. Please plot the scatter diagram between monthly average income and age (Let's monthly average income on the Y-axis and age on the X-axis)
3. Do you see any evidence for heteroskedasticity? Explain.
4. Run a regression to see the effect of age on monthly average income.
5. Do a hypothesis testing whether the slope coefficient and intercept coefficient are equal to 0 at 5% level of significance.
6. Please interpret the result based on these variables
  - Intercept coefficient

- Slope coefficient
- $R^2$

7. Is there any significant relationship between age and monthly average income? If so,

- Please give a reasonable explanation.
- Do you agree that "Age is a crucial factor that affects monthly average income"?

**Caveat:** This class is not a statistics or mathematics class. This is an econometric class where you need to combine your economic understanding together with statistical theory and use them through statistical tools such as E-View and STATA. **One** of the most simple applications of this subject is to test a theoretical relationship of variables, just like in this homework example or some of the seminar topics.