

Fin 335 Assignment 1

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1. **Due February 13 (F) (1:00pm).** No late submission will be accepted.
2. Total scores: 50 points. You can discuss the assignment with your classmates *but you need to do the assignment on your own hands and write down your own answers.* Otherwise, you learn little from this assignment.
3. Go to the course website to download the Excel file **growth.xls** (next to this guideline) to your personal disk.
4. To better organize your folder, I would suggest you create at least two sub folders under your Fin335 Forecasting Folder (I hope you already have one!)
 - Data** where you put all the downloaded data from course website
 - Assignment** where you save your assignment/project program scripts and output files
5. After finishing your homework, turn in your assignment **electronically** via D2L.
 - (1) From the *Course Home* page, on the *Navigation* bar, click **DROPBOX**
The *Folder List* dialog box appears.
 - (2) Click "Assignment 1" folder. The *Drop Off Files* dialog box appears.
 - (3) In the *File* text box, select the file: (a) Click **BROWSE...** The *Choose file* dialog box appears. (b) Using the *Look in* pull-down list, locate and select the file. (c) Click **OPEN**.
6. Double check. View all the files that have been submitted to me in the your *Dropbox*.
From the *Course Home* page, on the *Navigation* bar, click **DROPBOX**
The *Folder List* dialog box appears. Click **HISTORY**. The *Dropbox Dropoff History* dialog box appears. A list of submitted files appears in each folder.
7. In this assignment, you will have to submit one MS document file (a01.doc) and one SAS program script file (a01.sas).
8. Use the SAS ODS system to produce your output. Therefore, your SAS program script should begin with `ods html file = "..\..\a01.doc" style = minimal;`
And end with `ods html close;`

Q1. (10 points) Beyonce wanted to buy a house with a price \$250,000. She could only afford the down payment 20% of the price, which is \$50,000. Therefore she went to the bank to ask for a 30-years mortgage loan for \$200,000. The banker told her the current (annual) fixed mortgage rate is 5%. The amortized mortgages have the following formula to show borrower's future monthly repayment for this mortgage.

x is the total amount of loan (in the case, $x=200,000$)

z is the mortgage interest rate (in the case, $z=0.05$)

y is the years of the loan (in the case, $y=30$)

c is the monthly mortgage rate (in the case, $c=0.05/12$)

n is the total months of the loan (in the case, $n=30*12$)

p is the monthly repayment for Beyonce

$$p = \frac{x \cdot [c \cdot (1 + c)^n]}{(1 + c)^n - 1}$$

How much will be the monthly payment for Beyonce?

Use the SAS program to write a script to show the result for Beyonce.

[Note: SAS can only read data $x=200000$ instead of 200,000.]

Q2. (40 points) Go to the course website to download the growth.xls to your folder. Open the file and browse the data and then click the "description" tab to read the data and variables description. Angelina is a managing director of global investment department in Morgan Stanly. Her current task is to understand which variables would affect a country's long-run real GDP (Gross Domestic Product) growth. Therefore, the company could do better forecasting and investment strategy across countries. You are her analyst. You need to report the result to her.

Note: (Step 1-6: 20 points; Step 7: 20 points)

1. Use the same SAS script following Q1 and write program for the following
2. import the data to SAS.
3. a basic descript statistics. (proc means)
4. test if the hull hypothesis that yearsschool = 6 should be rejected or not.
5. a multiple regression as follows,

$$\text{Growth} = \beta_0 + \beta_1 \text{RGDP60} + \beta_2 \text{TradeShare} + \beta_3 \text{YearSchool} + \beta_4 \text{Rev_coups} + \beta_5 \text{Assasinations}$$
6. Run all the script, and you will see a doc file popping up. Click "Open" and then save the document as a01.doc.
7. In the a01.doc, before the regression output, explain β_1 to β_5 in details. For example, the meaning of coefficients, t-statistics, p-values, are they significant (different from zero) or not.
8. Save the file a01.doc and a01.sas in your folder and copy the a01.sas script context into in the beginning of a01.doc. Submit a01.doc to the dropbox in D2L.
9. To let me grade your assignment easier, follow this format in order:
 - (1) Your name, (2) Q1 script, (3) Q1 result, (4) Q2 script, (5) Q2 explanations, (6) Q2 result.