**To be done in groups of two.**

1. Compute log returns for the IPC index (if a return is equal to zero, replace it with empty cell “”)
2. Compute log returns for the VIMEX index (if a return is equal to zero, replace it with empty cell “”)
3. Compute the autocorrelation function up to 100 lags for IPC returns, IPC squared returns and VIMEX returns

**Questions to be entered in the excel spreadsheet.**

1. What is the average autocorrelation of the IPC returns from 1 to 100 lags
2. What is the average autocorrelation of the IPC squared returns from 1 to 10 lags
3. What is the average autocorrelation of the VIMEX returns from 1 to 10 lags
4. Compute the following measures for the daily IPC returns
   1. Mean
   2. Median
   3. StDev
   4. Maximum
   5. Minimum
   6. Skewness
   7. Kurtosis
   8. Jarque-Bera normality test
5. A monthly return for a month is the sum of ALL log returns in that month. Use the functions month and year (mes y año) to extract a unique identifier for the month-year, then use pivot tables (Tablas Dinámicas) to compute the monthly return. Compute the following measures for the monthly IPC returns.
   1. Mean
   2. Median
   3. StDev
   4. Maximum
   5. Minimum
   6. Skewness
   7. Kurtosis
   8. Jarque-Bera normality test
6. What is the sum of the average of the 3 largest negative IPC daily returns in absolute value and the average of the 3 largest IPC daily positive returns?
7. What is the correlation between the IPC and VIMEX returns
   1. All sample
   2. In 2014
   3. In 2013
   4. In 2009
   5. In 2008
8. Standardize the IPC returns with the daily VIMEX volatility (sqrt(360)). Given that the standard deviation dominates the mean, assume that the average return is zero. Compute the following values for the standardized IPC returns
   1. Mean
   2. Standard deviation
   3. Skewness
   4. Kurtosis