EXCEL #4  
*FV & PV Calculations for Annuities and Perpetuities*

Create a model with two sheets:

**SHEET #1 - ANNUITIES** - On the first sheet, build a model with five separate fields. Each field should highlight the variable inputs, and should describe in a user friendly manner, the content or meaning of the inputs and output.

- The first field involves saving up an amount for retirement. Your variables should be how much you want at retirement, the rate your investments will earn, and the number of years until retirement. Solve for how much money you should be saving each year (PMT) in order to accomplish your goal.
- The second field also involves saving for retirement. In this case, your variables are your payment (per month), annual interest rate, number of months. Solve for how much your investment will be worth at your planned retirement (FV).
- The third involved sizing a loan, or rather, figuring out how much you can borrow. The variables will be the monthly payment you can afford, the interest rate, and the number of payments. Solve for the loan amount that you can support (PV).
- The last field will also involve a loan. In this case your variables will be rate, number of periods, and loan amount. You will be solving for what the monthly payment will be.

**SHEET #2 – PERPETUITIES** - On the second sheet build a model with three separate fields. Each field should highlight the variable inputs and should describe in a user friendly manner, the content or meaning of the inputs and outputs.

- The first field should calculate the perpetual payment you could receive, given a certain amount of money up front and a given interest rate.
- The second field should calculate the present value, or amount of money I would have to deposit in order to get a perpetual payment of a given amount assuming a specified interest rate.
- The third field should calculate the rate that I would need to earn on my money deposited in order to receive a specified perpetual payment.