A106 Project 2

Submission: Email to liguo.yu@gmail.com with subject: A106 (Project 2): *your name*

Objective: This project provides additional practice in using the Excel spreadsheet program.

Analyzing a loan payment:
The process of paying off a loan is called amortization. A table that shows the sequence of balances as the loan is being paid off is called an amortization table. You are to design a worksheet that calculates the amortization table for a car loan.
A car loan is affected by the following:

- The price of the car.
- The down payment.
- The length of the loan (typically in months of years).
- The interest rate on the loan (The interest rate is typically expressed as an annual percentage however, it should be converted to periodic interest rate)

The first step in solving the amortization problem is to calculate the monthly payment. (See the PMT() function)

Price of the car	$13,806.50
Down Payment	$2000.00
Principle (loan amount)	$11,806.50
Annual interest	10.25%
Term (years)	5
Periods per year	12
No. of payments	60
Monthly Payment	252.31

Once the monthly payment is calculated, you must generate an amortization table. Such a table is shown below:

Payment No.	Beginning Balance	Interest This period	Principle this period	Ending balance
1	11,806.50	100.85	151.46	11,655.04
2	11.655.04	99.55	152.75	11,502.28
3	11,502.28	98.25	154.06	11,348.23
…				

After completing the amortization table:

1) Using MS Word, write a paragraph to an imaginary customer you are selling this car to and copy the amortization table from the Excel file as part of your letter.
2) Select the Interest and Principle columns and create a **line chart** showing the relationship between the two columns. Insert this chart into the Word document. Make sure that both axes are labeled appropriately and that you have a proper title and legend.

Note:

1. All monetary values must be formatted with the "currency" format.
2. The annual interest rate must be formatted in the "percent" format.
3. Calculate the value for principle based on the price and the down payment.
4. Calculate the number of payments based on the term and the periods per year.
5. Use the built-in function **PMT** to calculate the monthly payment. Set type to 0 (payments are due at the end of each period). Use abs function to return a positive value.
6. Use equations to generate the amortization table.
7. **DO NOT** use literal values in equations!
8. On your chart, make sure that the values on the x-axis (Payment number) start at 1 and do not exceed 60.
9. Save the Excel document as *loan_amortization.xlsx* in your A106 *Projects* folder and save the Word document as *letter_to_customer.docx* in your A106 *Projects* folder.
10. Email *loan amortization.xlsx* and *letter_to_customer.docx* to the instructor.