Part 1: Monthly Payment

Throughout your life, there will be some major loans that you take out to facilitate the lifestyle you want. Perhaps the two most common would be a car payment and mortgage. These types of loans use something called simple interest (although some would consider a mortgage a compound interest loan that does not compound!).

Take a look at this link to understand the difference between compound and simple interest:
http://www.moneyhabits.com/interest2.htm

*Use this link for more information about the monthly payment formula:
http://www.financeformulas.net/Loan_Payment_Formula.html

You will need to read in and store the following data from the user.

principal
downPayment
interestRate
term

For example:

11950 (dollars)
950 (dollars)
7.5 (percent)
60 (months)

Once you calculate the monthly payment, print it to the screen as follows:

Your monthly payment will be __________.

(where the ________ is the amount you calculated)

* We will discuss this in class
Part 2: Amortization Table/Schedule

The next part of the project calls for you to create an amortization table for your loan. These tables are very important as they show you the amount paid to interest and principal throughout the life of your loan. We will discuss this more in class, but check out the following link about amortization tables: http://banking.about.com/od/loans/a/What-Is-An-Amortization-Table.htm

In a spreadsheet this may look something like this:

<table>
<thead>
<tr>
<th>Period</th>
<th>Payment</th>
<th>Interest</th>
<th>Principal</th>
<th>Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>$1,297.20</td>
<td>$1,125.00</td>
<td>$172.20</td>
<td>$200,000.00</td>
</tr>
<tr>
<td>1</td>
<td>$1,297.20</td>
<td>$1,124.03</td>
<td>$173.16</td>
<td>$199,827.80</td>
</tr>
<tr>
<td>2</td>
<td>$1,297.20</td>
<td>$1,123.06</td>
<td>$174.14</td>
<td>$199,654.64</td>
</tr>
<tr>
<td>3</td>
<td>$1,297.20</td>
<td>$1,122.08</td>
<td>$175.12</td>
<td>$199,480.50</td>
</tr>
<tr>
<td>4</td>
<td>$1,297.20</td>
<td>$1,121.09</td>
<td>$176.10</td>
<td>$199,129.28</td>
</tr>
<tr>
<td>5</td>
<td>$1,297.20</td>
<td>$1,120.10</td>
<td>$177.09</td>
<td>$198,952.18</td>
</tr>
</tbody>
</table>

For our purposes, we would create the columns outside of a loop and just use a tab to delimit them.

Once you know the monthly payment, as calculated in part one above, you can loop from 1 to the term of the loan. Each iteration, you will need to determine how much of your payment goes to interest, and how much goes to principal.

You will deduct the principal amount from the previous months balance and then calculate the new balance.

To determine the interest and principal paid each iteration (month of the term), you can do the following.

Monthly Interest Payment = Principal Balance x Monthly Interest Rate
Monthly Principal Payment = Monthly Payment - Monthly Interest Payment

** We will discuss this in class.