

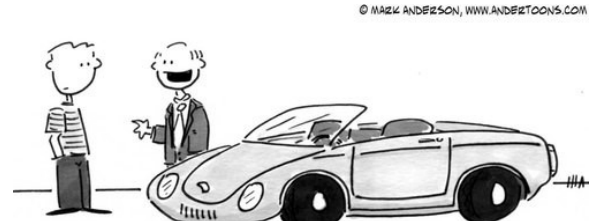
CS 326 – Project #4

Purpose: Become familiar with JavaScript syntax, data types, and control structures. Additionally, increase experience with basic HTML.

Points: 100

Assignment:

Create a simple HTML web page and form for a auto loan calculator. The form should read the amount to be borrowed, down payment, interest rate, and term (payback period) and calculate and display the loan information¹ (monthly payment amount and total payments). A Javascript function should be used to read the data and calculate the loan information (payment amount and total payments).



"OK, let me go pretend to talk to my manager."

- Create an HTML form for the loan amount, interest rate, and loan term (in years), and a button to “calculate mortgage information”. The HTML file must include a JavaScript function to calculate the payment and total amount borrowed.
- The HTML page should include the class, assignment, and your name. Refer to the example output for formatting illustration.
- The JavaScript function must verify each input is a valid number. If input is not valid, display an appropriate error message. Additionally, ensure that the loan amount is less than or equal to \$500,000.00, that the interest rate is between 0% and 15% (inclusive), and that the loan term is between 1 and 6 years. Refer to the example error message.
- The payment amount can be calculated as follows:

$$payment = amount * \frac{(irate * (1 + irate)^{term})}{((1 + irate)^{term} - 1.0)}$$

The interest rate entered on the form is the annual rate. The *irate* is the monthly interest rate.

- The payment amount and total cost should include fully formatted currency values (i.e., \$xx,xxx.xx) – including \$ sign and commas as appropriate. Refer to the example output.

Submission:

- 1) Submit a copy of the HTML/JavaScript source file.

¹ For more information, refer to: https://en.wikipedia.org/wiki/Mortgage_calculator

Project #7 – Example

Example screen shot:

CS 326 Javascript Car Loan Calculator
Ed Jorgensen

Car Cost Amount: 12000
Down Payment: 2000
Annual Interest Rate: 3.5
Term (in years) (1-6): 4

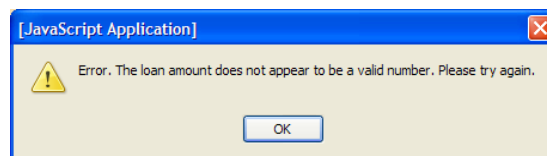
Press to calculate auto loan information
Reset Form

Monthly payment: \$223.56
Total payments: \$10,730.88

Payment Schedule

Car Payment Number	Interest	Principal	Balance
1	\$28.17	\$194.39	\$9,865.61
2	\$28.60	\$194.96	\$9,610.65
3	\$28.83	\$195.53	\$9,415.12
4	\$27.46	\$196.10	\$9,219.02
5	\$26.89	\$196.67	\$9,022.35
6	\$26.32	\$197.24	\$8,825.11
7	\$25.74	\$197.82	\$8,627.29
8	\$25.16	\$198.40	\$8,428.89
9	\$24.58	\$198.98	\$8,229.91
10	\$24.00	\$199.56	\$8,030.35
11	\$23.42	\$200.14	\$7,830.21
12	\$22.84	\$200.72	\$7,629.49

Example Error message box:



Note, the error box will be different based on browser and OS being used.