

## CS 326 – Project #4

Purpose: Become familiar with JavaScript syntax, data types, and control structures. Additionally, increase experience with basic HTML.  
Due: Wednesday (9/25)  
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 information<sup>1</sup> (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.

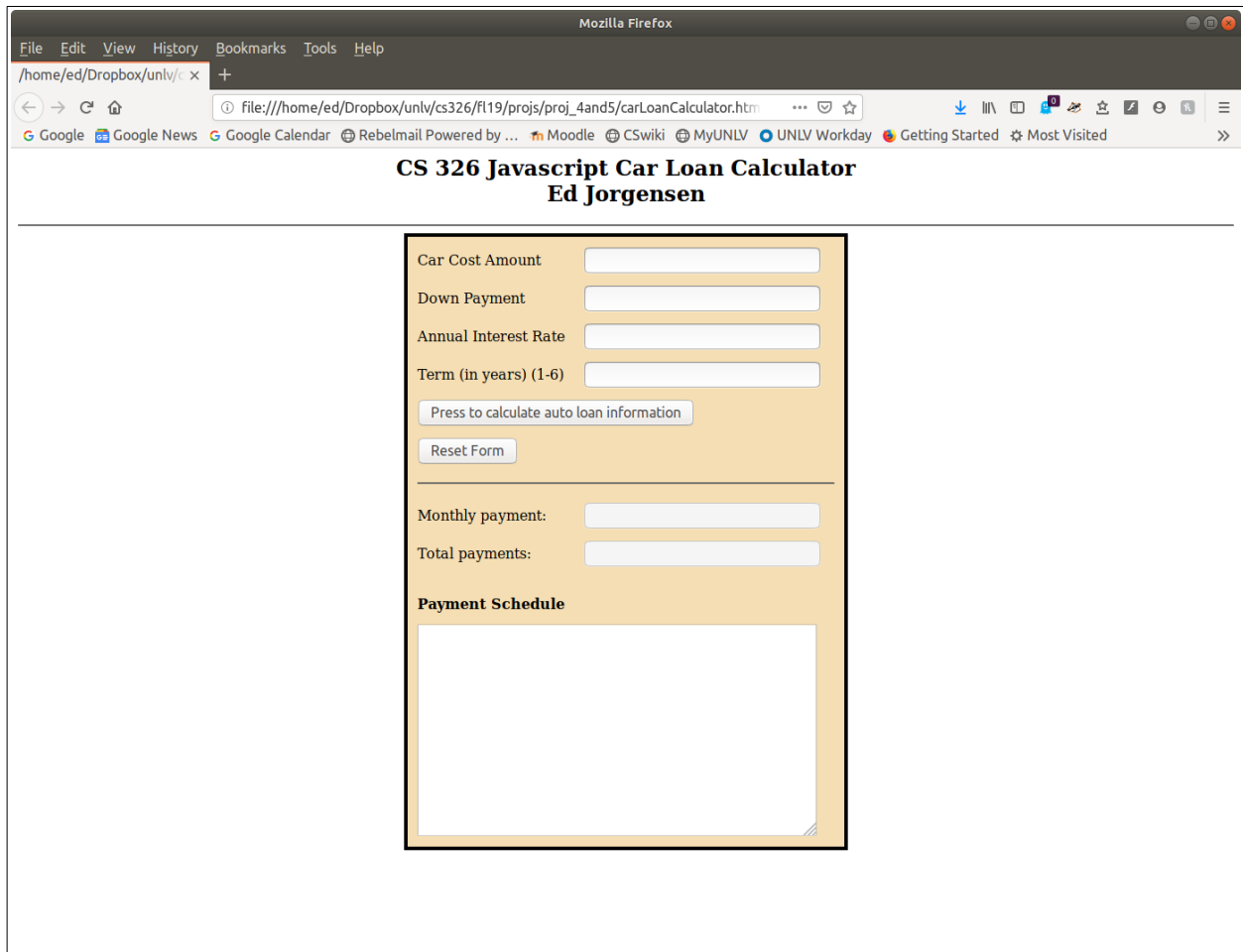
### Submission:

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

<sup>1</sup> For more information, refer to: [https://en.wikipedia.org/wiki/Mortgage\\_calculator](https://en.wikipedia.org/wiki/Mortgage_calculator)

## Project #7 – Example

Example screen shot:



The screenshot shows a Mozilla Firefox browser window displaying a web page titled "CS 326 Javascript Car Loan Calculator" by Ed Jorgensen. The page contains a form for calculating car loan information. The form has the following fields and buttons:

- Car Cost Amount:
- Down Payment:
- Annual Interest Rate:
- Term (in years) (1-6):
- Buttons: "Press to calculate auto loan information" and "Reset Form"
- Monthly payment:
- Total payments:
- Payment Schedule: A large empty text area for displaying the schedule.

Example Error message box:

