CS 329E: Bulko
HW6: Mortgage Calculator

1 Problem Definition

Create a mortgage calculator in JavaScript, similar to the ones you can find on various bank websites. It is basically a *form* that has the following text fields:

- Principal amount (a floating-point number)
- Yearly interest rate (a floating-point number between 0 and 1; for example, "0.08" for 8 percent)
- Loan term in months (an integer)
- Two buttons: `Calculate` and `Clear`

In addition, there should be three output-only items under the buttons (labels, paragraphs, or some other type of elements that match the page's formatting):

- Monthly payments (a floating-point number)
- Sum of all payments (a floating-point number)
- Total interest paid (a floating-point number)

Given the principal amount, the interest rate, and the loan period, you should calculate the monthly payment, the sum of all payments and the total amount paid in interest. The formula for the monthly payment is:

$$R = P * r/(1 - (1/(1 + r)^n))$$

where:

- R = monthly payment
- P = principal loan amount
- r = monthly interest rate (yearly rate divided by 12)
- n = number of months

If any non-numeric values or negative numbers are entered, an alert box should warn the user, and the computation should be halted. Round all final answers to two decimal places for display purposes.

Your mortgage calculator **must** be laid out neatly using CSS. Also, place your JavaScript code in a separate file. Create a subdirectory `HW6`, and place all files associated with this assignment in this directory.

As always, use the HTML and CSS validators, and look at your page through multiple browsers. To turn in your homework, simply insert a link in the table in your `index.html` file in reverse chronological order. (The most recent assignment should be the first item in the table.) There is no need for you to post anything to Canvas, or to email anything to the instructor or any of the TAs. Insert the link before 11:59 pm on the due date. We will examine the timestamp on the files to confirm that you completed the assignment on time, so be sure you do not alter the files after the deadline!