

**Project #3**

You have been hired by a bank to manage their loan department. One of your responsibilities is to write a JavaScript program that will compare loans with various interest rates.

Your program should first consist of a form that allows the user to enter the loan amount (float), a starting yearly interest rate (int), an ending yearly interest rate (int), and the number of years of the loan (int). The goal of your JavaScript program is to compute what the monthly payment will be for each interest rate beginning with the starting rate and finishing with the ending rate in increments of 1. Your output will be presented within a table.

To compute monthly payment, use the formula..

$$\text{Monthly Payment} = \frac{c * r * (1 + r)^n}{(1 + r)^n - 1}$$

where

c = loan amount

r = monthly interest rate ( yearly interest rate / 1200 ) this also converts to a decimal for your formula

n = number of months of loan ( years \* 12 )

For the formula, you will need to use a few of the JavaScript [Math functions](#).

You must also compute the total payment of the loan. This is a very simple calculation, so I will let you figure it out.

Your JavaScript must properly obtain and parse the user's input from the form. Next, create a loop to create the table. Your output must display all of the user's input, and the table. Your table must alternate row colors. **You must alternate the row colors of your table using CSS.** Look this up, easy to find and easy to do.

Also, the CSS file is located at...

<http://newton.ncc.edu/gansonj/ite154/templates/ite154proj3sp19template.txt>

You will also be graded on the following.

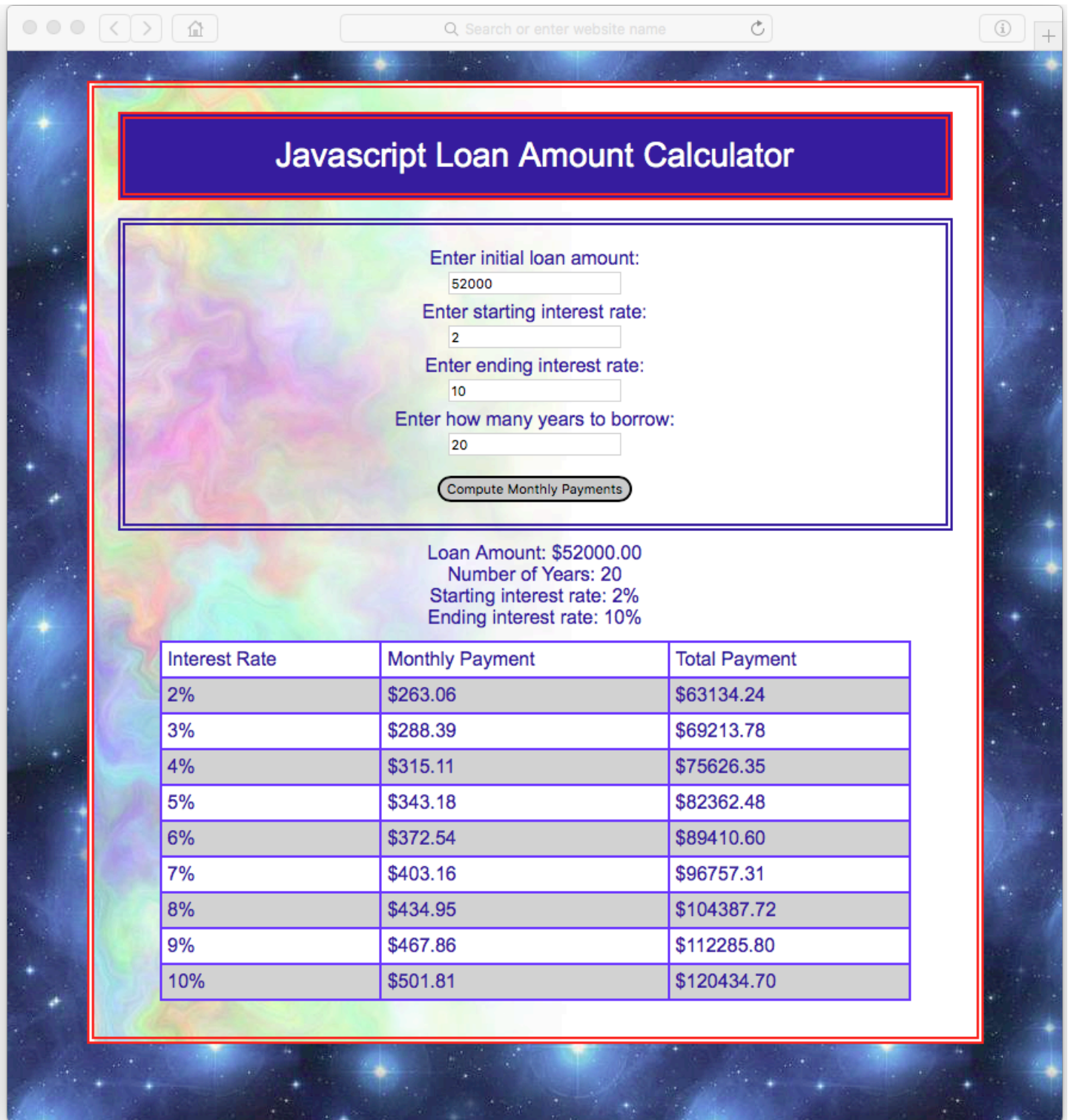
- Code must be properly indented. All brackets must line up and all method bodies must be uniformly indented.
- Your code must contain a comment at the top specifying your name, project number, date, and course and section.
- Variable names must be intuitive.
- All closing brackets MUST be commented as to what they are closing as shown in class.
- All numbers must be displayed to 2 decimal places by properly using the toFixed() function.
- All monetary values must be displayed with a \$ sign.

**Your output should look exactly like the two sample outputs listed on the following pages.**

**Sample run 1:**

The screenshot shows a web browser window with a search bar and navigation buttons. The main content area has a dark blue header with the title 'Javascript Loan Amount Calculator'. Below the header is a form with four input fields and a button. The inputs are: 'Enter initial loan amount:' with value '10000', 'Enter starting interest rate:' with value '4', 'Enter ending interest rate:' with value '9', and 'Enter how many years to borrow:' with value '12'. The button is labeled 'Compute Monthly Payments'. Below the form, the calculated values are displayed: 'Loan Amount: \$10000.00', 'Number of Years: 12', 'Starting interest rate: 4%', and 'Ending interest rate: 9%'. At the bottom is a table with three columns: 'Interest Rate', 'Monthly Payment', and 'Total Payment'. The table contains six rows of data for interest rates from 4% to 9%.

| Interest Rate | Monthly Payment | Total Payment |
|---------------|-----------------|---------------|
| 4%            | \$87.55         | \$12607.61    |
| 5%            | \$92.49         | \$13318.42    |
| 6%            | \$97.59         | \$14052.24    |
| 7%            | \$102.84        | \$14808.69    |
| 8%            | \$108.25        | \$15587.32    |
| 9%            | \$113.80        | \$16387.64    |

**Sample run 2:**

## Javascript Loan Amount Calculator

Enter initial loan amount:

Enter starting interest rate:

Enter ending interest rate:

Enter how many years to borrow:

Loan Amount: \$52000.00  
Number of Years: 20  
Starting interest rate: 2%  
Ending interest rate: 10%

| Interest Rate | Monthly Payment | Total Payment |
|---------------|-----------------|---------------|
| 2%            | \$263.06        | \$63134.24    |
| 3%            | \$288.39        | \$69213.78    |
| 4%            | \$315.11        | \$75626.35    |
| 5%            | \$343.18        | \$82362.48    |
| 6%            | \$372.54        | \$89410.60    |
| 7%            | \$403.16        | \$96757.31    |
| 8%            | \$434.95        | \$104387.72   |
| 9%            | \$467.86        | \$112285.80   |
| 10%           | \$501.81        | \$120434.70   |