Program_06_1

Requirements

Given the following equation, create a function named **getMonthlyLoanPayment**.

$$A = P\frac{r(1+r)^n}{(1+r)^n - 1}$$

Use the following code to help with defining your function. **NOTE: you will need to create the function in an M file, do not create it here.**

---------- Copy code for starting function ----------

```
function payment = getMonthlyLoanPayment(principal, yearlyRate, numPayments)

%GETMONTHLYLOANPAYMENT Calculate the monthly payment for a loan

%   Using the standard loan payment calculation A=P(r(1+r)^n/((1+r)^n-1))

%   determine the monthly payment amount for a loan. This function assumes

%   payments are made monthly, and that numPayments is the number of months

%   in the duration of the loan. If an invalid state or error occurs, the

%   payment value will be empty.
```

---------- End copy code for starting function ----------

The function shall:

- Compute a monthly loan payment given the principal, yearly interest rate, and number of payments in months
- Support vectors, that is, when provided with vectors of data for each parameter, return a vector of monthly payment amounts.
- Return an empty value if an error occured, such as a negative value, a string value in any of the arguments passed in, empty values in any of the arguments passed in, etc.
- Satisfy all of the test requirements as defined in **testMonthlyLoanPayment**. That is, you shall run this test and ensure all tests pass.

Tips:

- In the equation above, the rate **r** is a per-payment rate, therefore the yearly rate must be divided by 12.
- Start by running the tests on your function before you even start writing code. Obviously this will result in multiple failures (11 to be precise). Review the failure summary and pick one test at a time, start satisfying the requirements for that test. If necessary, open up the test code and analyze the `verify` statement to see what it's looking for.

Program

There is no "script" portion of this assignment, merely running the tests and having a successful outcome will satisfy the requirements for this assignment.

Example Output

The test results output should appear as follows to indicate success.

```
Running testMontlyLoanPayment
.......... .
Done testMontlyLoanPayment
__________


ans =

  1×11 TestResult array with properties:

    Name
    Passed
    Failed
    Incomplete
    Duration
    Details

Totals:
   11 Passed, 0 Failed, 0 Incomplete.
   0.5738 seconds testing time.
```