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CIS-5

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**Loan Repayment Calculator**

Write a C++ program to generate a table with the repayment of a loan.

The monthly repayment formula is:

R = P 1/2 ((1+i/12)^12y)/(1+i/12)^12y-1))

Variables in the formula:

R = Calculated monthly repayment

P = Principal amount of the loan

Y = Number of years of the loan

i = yearly interest rate in decimal (i.e. 1.37% be represented as 0.0137)

Break down formula into various chunks:

float p1 = (interest / 12);

float p2 = (1 + p1);

float p3 = (12 \* years);

float p4 = pow(p2,p3);

float payment = principal \* p1 \* ( p4 / (p4-1));

**Steps:**

1. Declare necessary variables
2. Declare function prototypes
   1. Kitty Cat Test – Input Validation
   2. Loan Table – For Loops
3. Output initial program instructions/opening statement
4. Prompt the user for the principal amount of their loan with input validation checks
5. Store the value into the principal variable
6. Prompt the user for the starting yearly interest rate with input validation checks
7. Store the value into the interest variable
8. Perform calculations with broken down formula
9. Output the results
10. Prompt the user if they want to start again and re-enter new data
11. If user declines, exit the program.