

```

/* FILE NAME: .....
 * AUTHOR: Solution Briefing
 * See our syllabus for a good comment
 */

```

```

#include <iostream>
using namespace std;

```

```

int main() {
    // VARIABLE INITIALIZATION

```

➡ Properly define your variables.....

```

        // CURRENCY FORMATTING
        cout.setf(ios::fixed);
        cout.setf(ios::showpoint);
        cout.precision(2);

        // USER INPUT
        // NOTE: For valid input, the loan, interest, and monthly payment must
        // be positive. The monthly payment must also be large enough to
        // terminate the loan.
        cout << "\nLoan Amount: ";
        cin >> loan;

```

➡ Your program will not move forward until a positive loan is entered

```

        cout << "Interest Rate (% per year): ";
        cin >> interestRate;

```

➡ Your program will not move forward until a positive interest rate is entered

```

        // GET PROPER INTEREST RATES FOR CALCULATIONS
        interestRate /= 12;
        interestRateC = interestRate / 100;
        cout << "Monthly Payments: ";
        cin >> monthlyPaid;

```

➡ Your program will not move forward until a monthly payment is sufficient

```

        cout << endl;

        // AMORTIZATION TABLE
        cout << "*****\n"
             << "\tAmortization Table\n"
             << "*****\n"
             << "Month\tBalance\t\tPayment\tRate\tInterest\tPrincipal\n";

        // LOOP TO FILL TABLE
        while (loan > 0) {
            if (currentMonth == 0) {
                cout << currentMonth++ << "\t$" << loan;

```

```

    if (loan < 1000) cout << "\t"; // Formatting MAGIC
        cout << "\t" << "N/A\tN/A\tN/A\t\tN/A\n";
    }
    else {

```



Properly calculate and display “monthlypaid” and “principal”
 when (1) $\text{loan} * (1 + \text{interestRateC}) < \text{monthlyPaid}$
 and (2) $\text{loan} * (1 + \text{interestRateC}) \geq \text{monthlyPaid}$

```

    }
    cout << "*****\n";
    cout << "\nIt takes " << --currentMonth << " months to pay off "
        << "the loan.\n"
        << "Total interest paid is: $" << interestTotal;
    cout << endl << endl;
    return 0;
}

```