Victor udeh  
pseudocode  
  
// Include necessary headers

#include <iostream>

#include <cmath>

// Using standard namespace for simplicity

using namespace std;

// Define the Investment class

Class Investment {

Private:

float principalAmount;

float annualInterestRate;

int numberOfYears;

int compoundFrequency;

Public:

// Constructor

Investment(float principal, float rate, int years, int frequency) {

principalAmount = principal;

annualInterestRate = rate / 100.0; // Convert percentage to decimal

numberOfYears = years;

compoundFrequency = frequency;

}

// Method to calculate compound interest

float calculateCompoundInterest() {

float interest = 1 + (annualInterestRate / compoundFrequency);

float totalAmount = principalAmount \* pow(interest, compoundFrequency \* numberOfYears);

return totalAmount - principalAmount;

}

// Method to calculate total amount

float calculateTotalAmount() {

return principalAmount + calculateCompoundInterest();

}

// Method to display investment details

void displayInvestmentDetails() {

cout << "Principal Amount: " << principalAmount << endl;

cout << "Annual Interest Rate: " << annualInterestRate \* 100 << "%" << endl; // Convert back to percentage for display

cout << "Number of Years: " << numberOfYears << endl;

cout << "Compound Frequency: " << compoundFrequency << endl;

cout << "Compound Interest: " << calculateCompoundInterest() << endl;

cout << "Total Amount: " << calculateTotalAmount() << endl;

}

};

// Main function

int main() {

cout << "Welcome to Airgead Banking Investment Calculator" << endl;

float principal;

float rate;

int years;

int frequency;

cout << "Enter the principal amount: ";

cin >> principal;

cout << "Enter the annual interest rate (in percentage): ";

cin >> rate;

cout << "Enter the number of years: ";

cin >> years;

cout << "Enter the compound frequency (e.g., 12 for monthly): ";

cin >> frequency;

Investment investment(principal, rate, years, frequency);

investment.displayInvestmentDetails();

return 0;

1. }  
     
     
     
   flowchart:  
   Start
2. Display "Welcome to Airgead Banking Investment Calculator"
3. Input:
   * Display "Enter the principal amount: "
   * Get principalAmount
   * Display "Enter the annual interest rate (in percentage): "
   * Get annualInterestRate
   * Display "Enter the number of years: "
   * Get numberOfYears
   * Display "Enter the compound frequency (e.g., 12 for monthly): "
   * Get compoundFrequency
4. Process:
   * Create an Investment object using the inputs from step 3.
5. Calculate:
   * Inside the Investment object:
     + Calculate annualInterestRate as rate divided by 100.
     + Calculate interest as 1 plus (annualInterestRate divided by compoundFrequency).
     + Calculate totalAmount using the compound interest formula.
     + Calculate compoundInterest as totalAmount minus principalAmount.
6. Output:
   * Display "Principal Amount: " followed by principalAmount
   * Display "Annual Interest Rate: " followed by annualInterestRate times 100 (to convert back to percentage)
   * Display "Number of Years: " followed by numberOfYears
   * Display "Compound Frequency: " followed by compoundFrequency
   * Display "Compound Interest: " followed by compoundInterest
   * Display "Total Amount: " followed by totalAmount
7. End