Mumbai Educational Trust's

Institute of Information Technology

C++ Programming

Assignment#3

Note:

Loan // Abstract Class
- principle - period
+ GetPrinciple : double + SetPrinciple(double):void + GetPeriod() : float + SetPeriod(float) : void + GetRate() : float (abstract fn) + GetEMI() :

Add the following classes to the Hierarchy

1) PersonalLoan
2) HomeLoan

Logic for GetRate varies based on the type loan

1) For PersonalLoan (upto 5 lakhs is 15% above 5 lakhs 16%)
2) For HomeLoan (upto 20 lakhs is 10% above 20 lakhs 11%)

Call its Installment method and print
the returned installment

emi = p * (1 + r * n / 100) / (12 * n)

Do the following in the test program.

a) **Also Create an Polymorphic Array of Loan objects**
b) **Write a utility function GetTotalEMI(loan array) returns total of All loan object EMI**

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Make the following changes in classes

3) Provide an appropriate constructors for HomeLoan class
4) Provide interface Taxable
    a. Double getTax() // method which gets tax on emi calculated
5) Provide interface Discountable
    a. Double getDiscount() // method gives discount on emi calculated
6) PersonalLoan is Taxable and HomeLoan is Discountable
7) Implement those function properly. For example getTax function will return 10% tax on emi calculated for a particular loan. Similarly you can assume some logic for getDiscount() may be it offers 5% discount on the emi calculated.
8) Provide an Utility Function GetTotalDiscount which return total discounts on all Home loans and also GetTotalTax which returns total tax on all Personal loans.

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Logic for GetRate varies based on the type loan

a) For PersonalLoan (upto 5 lakhs is 15% above 5 lakhs 16%)
b) For HomeLoan (upto 20 lakhs is 10% above 20 lakhs 11% and if above approved limit additional 1%)

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