

CONSTPRINAMORT

Updated: 31 Mar 2016

Use `CONSTPRINAMORT` to generate an amortization schedule for a loan with a fixed principal repayment.

Syntax

```
Public Shared Function CONSTPRINAMORT(  
    ByVal PV As Double,  
    ByVal Rate As Double,  
    ByVal LoanDate As Date,  
    ByVal NumPmtsPerYear As Integer,  
    ByVal FirstPaymentDate As Date,  
    ByVal DaysInYr As Integer,  
    ByVal NumberOfPayments As Integer,  
    ByVal LastPaymentNumber As Integer,  
    ByVal FirstPrinPayNo As Integer,  
    ByVal FV As Double,  
    ByVal PPMT As Double,  
    ByVal eom As Boolean,)
```

Arguments

PV

the principal amount of the loan. *PV* is an expression that returns a **Double**, or of a type that can be implicitly converted to **Double**.

Rate

the annual interest rate for the loan. *Rate* is an expression that returns a **Double**, or of a type that can be implicitly converted to **Double**.

LoanDate

the date that the loan starts accruing interest. *LoanDate* is an expression that returns a **Date**, or of a type that can be implicitly converted to **Date**.

NumPmtsPerYear

the number of payments in a year. *NumPmtsPerYear* is an expression that returns an **Integer**, or of a type that can be implicitly converted to **Integer**.

FirstPaymentDate

the date that the first payment is due. *FirstPaymentDate* is an expression that returns a **Date**, or of a type that can be implicitly converted to **Date**.

DaysInYr

the denominator number of days to be used in the calculation of the interest. *DaysInYr* is an expression that returns an **Integer**, or of a type that can be implicitly converted to **Integer**.

NumberOfPayments

the total number of payments to be used in the calculation principal payment amount, if a principal payment amount (*PPMT*) is not entered. This may not be the actual number of payments on the loan, which can be specified by using *LastPaymentNumber*.

NumberOfPayments is an expression that returns an **Integer**, or of a type that can be implicitly converted to **Integer**.

LastPaymentNumber

the number of the last loan payment if different than the *NumberOfPayments*.

LastPaymentNumber is an expression that returns an **Integer**, or of a type that can be implicitly converted to **Integer**.

FirstPrinPayNo

the payment number of the first principal payment. *FirstPrinPayNo* is an expression that returns an **Integer**, or of a type that can be implicitly converted to **Integer**.

FV

the future value at the end of the loan. *FV* is an expression that returns a **Double**, or of a type that can be implicitly converted to **Double**.

PPMT

the principal payment amount. *PPMT* is an expression that returns a **Double**, or of a type that can be implicitly converted to **Double**.

eom

specifies that if the *FirstPaymentDate* is the last day of the month and the *NumPmtsPerYear* is 1,2,4, or 12 that all subsequent payments occur on the last of the month. *eom* is an expression that returns a **Boolean**, or of a type that can be implicitly converted to **Boolean**.

Return Type

FinancialTypes.CONSTPRINAMORT_table

```
Class CONSTPRINAMORT_table
  Inherits Data.DataTable
  Property Item(RowIndex As Integer) As FinancialTypes.OutputRow_CONSTPRINAMORT
```

```
Class OutputRow_CONSTPRINAMORT
  Public num_pmt As Integer
  Public date_pmt As Date
  Public amt_prin_init As Double
  Public amt_pmt As Double
  Public amt_int_pay As Double
  Public amt_prin_pay As Double
  Public amt_prin_end As Double
End Class
```

Column	Description
num_pmt	The monotonically calculated payment number with the payment number on the first payment date = 1.
date_pmt	The date of the payment calculated chronologically from <i>FirstPaymentDate</i> .
amt_prin_init	The principal amount at the beginning of the period. When num_pmt is equal to 0, the principal amount is 0, otherwise the principal amount is the ending principal amount where num_pmt = num_pmt - 1.
amt_pmt	amt_int_pay + amt_prin_pay.
amt_int_pay	The interest amount for the period. The interest amount is calculated using <i>Rate</i> , <i>DaysInYr</i> , and amt_prin_init. See Remarks for more information on the calculation of amt_int_pay
amt_prin_pay	The principal payment amount. See Remarks for more information.
amt_prin_end	The ending principal amount. Calculated as the beginning principal amount (amt_prin_init) less the principal payment amount for the period (amt_prin_pay).

Remarks

- If *PV* is NULL then = 0.
- If *Rate* is NULL then *Rate* = 0.
- If *LoanDate* is NULL then *LoanDate* equals the current system date.
- If *NumPmtsPerYear* is NULL then *NumPmtsPerYear* = 12. *PV*
- If *DaysInYr* is NULL then *DaysInYr* = 365.
- If *NumberOfPayments* is NULL then *NumberOfPayments* = 1.
- If *FirstPrinPayNo* is NULL then *FirstPrinPayNo* = 1.
- If *LastPaymentNumber* is NULL then *LastPaymentNumber* = *NumberOfPayments*.
- If *eom* is NULL then *eom* = True.
- If *FirstPaymentDate* is NULL then *FirstPaymentDate* is calculated using *LoanDate* and *NumPmtsPerYear*.
- *NumPmtsPerYear* must be 1, 2, 3, 4, 6, 12, 13, 24, 26, 52, or 365.
- *NumberOfPayments* must be greater than 0.
- *DaysInYr* must be 360 or 365.
- If *NumberOfPayments* is less than 1 then an error will be generated.
- If *LastPaymentNumber* is less than 1 then an error will be generated.
- If *FirstPrinPayNo* is less than 1 then an error will be generated.
- If *PPMT* is NULL then *PPMT* is calculated as $(PV - ISNULL(FV, 0)) / (NumberOfPayments - FirstPrinPayNo + 1)$.
- If *NumPmtsPerYear* = 365, 52, 26, or 13 the amt_int_pay is calculated assuming a 365 day year. If the first interest period is an odd period, then the amt_int_pay = $PV * Rate * (FirstPaymentDate - LoanDate) / 365$. For all other periods, the amt_int_pay = $amt_prin_init * 364/NumPmtsPerYear/365 * Rate$.
- For all other values of *NumPmtsPerYear*, amt_int_pay is calculated using *DaysInYr*.

- If *DaysInYr* = 360 and *num_pmt* > 1 then $\text{amt_int_pay} = \text{amt_prin_init} * \text{Rate} / \text{NumPmtsPerYear}$.
- If *DaysInYr* = 360 and *num_pmt* = 1 and *FirstPaymentDate* is a regular payment date then *amt_int_pay* is calculated as above, otherwise the calculation is $\text{amt_int_pay} = \text{Rate} * \text{YEARFRAC}(\text{start_date}, \text{d.date_pmt}, 0)$.
- If *DaysInYr* = 365 and *num_pmt* > 1 then $\text{amt_int_pay} = \text{amt_prin_init} * \text{Rate} * \text{YEARFRAC}(\text{start_date}, \text{date_pmt}, 3)$ where *start_date* is *date_pmt* from the previous row.

See Also

- AMORTRATE - Constant daily effective rate for bond/loan amortization
- AMORTSCHED - Generate amortization schedule of a loan
- Balloon - Schedule with periodic interest payments and principal repaid at maturity
- Bullet - Schedule with single interest and principal payment at maturity
- ConstantCashFlow - Schedule with equal periodic cash flows
- ConstantCashFlowFR - Schedule for a loan with a fixed maturity date and annuity-style payments
- ConstantPaymentAmount - Schedule with no maturity with fixed periodic payment amount
- ConstantPrincipal - Schedule with fixed maturity date where the periodic principal payment is calculated on a straight-line basis
- ConstantPrincipalAmount - Schedule with no fixed maturity with a fixed periodic principal payment
- ConstantPrincipalRate - schedule with no fixed maturity where a fixed percentage principal payment
- NPD - Next payment date of a loan
- NPNO - Next payment number of a loan
- PAYMENTPERIODS - Number of months until first payment date, start of grace period, end of grace period, and total number payments for a loan
- PERIODRATE - Adjust the nominal rate of a loan
- PPD - Previous payment date of a loan
- PPNO - Previous payment number of a loan
- UNEQUALLOANPAYMENTS - Schedule for a loan where interest and principal payment frequencies differ