Module delroy

Class SmartCalculator

java.lang.Object
     SmartCalculator

```
public class SmartCalculator
extends Object
```

SmartCalculator class provides methods for calculating simple interest, compound interest, mean of numbers, factorial, and percentage.

Constructor Summary

Constructors

Constructor	Description
SmartCalculator()	

Method Summary

All Methods   Static Methods   Instance Methods   Concrete Methods

Modifier and Type	Method	Description
double	calculateCompoundInterest()	Calculates compound interest.
int	calculateFactorial(int n)	Calculates the factorial of a number.
double	calculateMean()	Calculates the mean of numbers.
double	calculatePercentage()	Calculates the percentage.
double	calculateSimpleInterest()	Calculates simple interest.
double	getAmount()	Gets the total amount after compounding.
double	getMarksObtained()	Gets the marks obtained for percentage calculation.
double[]	getNumbers()	Gets the array of numbers used for calculating the mean.
double	getPrincipal()	Gets the principal amount.

double	getRate()	Gets the rate of interest.
double	getTime()	Gets the time duration.
double	getTotalMarks()	Gets the total marks available for percentage calculation.
static void	main(String [] args)	Main method for testing the SmartCalculator class.
void	setAmount(double amount)	Sets the total amount after compounding.
void	setMarksObtained (double marksObtained)	Sets the marks obtained for percentage calculation.
void	setNumbers(double[] numbers)	Sets the array of numbers used for calculating the mean.
void	setPrincipal(double principal)	Sets the principal amount.
void	setRate(double rate)	Sets the rate of interest.
void	setTime(double time)	Sets the time duration.
void	setTotalMarks(double totalMarks)	Sets the total marks available for percentage calculation.

Methods inherited from class java.lang.Object

equals , getClass , hashCode , notify , notifyAll , toString , wait , wait , wait

Constructor Details

SmartCalculator

```
public SmartCalculator()
```

Method Details

getPrincipal

```
public double getPrincipal()
```

Gets the principal amount.

Returns:

The principal amount.

setPrincipal

```
public void setPrincipal(double principal)
```

Sets the principal amount.

Parameters:

`principal` - The principal amount to set.

getRate

```
public double getRate()
```

Gets the rate of interest.

Returns:

The rate of interest.

setRate

```
public void setRate(double rate)
```

Sets the rate of interest.

Parameters:

`rate` - The rate of interest to set.

getTime

```
public double getTime()
```

Gets the time duration.

Returns:

The time duration.

setTime

```
public void setTime(double time)
```

Sets the time duration.

Parameters:

`time` - The time duration to set.

getAmount

`public double getAmount()`

Gets the total amount after compounding.

Returns:

The total amount after compounding.

setAmount

`public void setAmount(double amount)`

Sets the total amount after compounding.

Parameters:

`amount` - The total amount after compounding to set.

getNumbers

`public double[] getNumbers()`

Gets the array of numbers used for calculating the mean.

Returns:

The array of numbers.

setNumbers

`public void setNumbers(double[] numbers)`

Sets the array of numbers used for calculating the mean.

Parameters:

`numbers` - The array of numbers to set.

getTotalMarks

`public double getTotalMarks()`

Gets the total marks available for percentage calculation.

Returns:

The total marks.

setTotalMarks

`public void setTotalMarks(double totalMarks)`

Sets the total marks available for percentage calculation.

Parameters:

`totalMarks` - The total marks to set.

getMarksObtained

`public double getMarksObtained()`

Gets the marks obtained for percentage calculation.

Returns:

The marks obtained.

setMarksObtained

`public void setMarksObtained(double marksObtained)`

Sets the marks obtained for percentage calculation.

Parameters:

`marksObtained` - The marks obtained to set.

calculateSimpleInterest

`public double calculateSimpleInterest()`

Calculates simple interest.

Returns:

The calculated simple interest.

calculateCompoundInterest

`public double calculateCompoundInterest()`

Calculates compound interest.

Returns:

The calculated compound interest.

calculateMean

```
public double calculateMean()
```

Calculates the mean of numbers.

Returns:

The calculated mean.

calculateFactorial

```
public int calculateFactorial(int n)
```

Calculates the factorial of a number.

Parameters:

n - The number for which to calculate the factorial.

Returns:

The calculated factorial.

calculatePercentage

```
public double calculatePercentage()
```

Calculates the percentage.

Returns:

The calculated percentage.

main

```
public static void main(String [] args)
```

Main method for testing the SmartCalculator class.

Parameters:

args - required for main class.