

IT UNIVERSITY OF COPENHAGEN

BDSA 2014

Assignment 37

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Chapter 1

Namespace Index

1.1 Packages

Here are the packages with brief descriptions (if available):

ReversePolishCalculator	5
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Chapter 2

Class Index

2.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

[ReversePolishCalculator.ReversePolishCalculator](#)

The class takes a string as input, and if the string is in the format of a reverse Polish calculator expression, then it will calculate and return the result. Features Can handle the operators: +, -, *, /, sqrt, cos, sin and pov (^) Can handle negative numbers if written in the form -x Tokens are separated by a whitespace. If a "token" includes a letter then the token is ignored

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[ReversePolishCalculator.ReversePolishCalculatorTests](#)

A test class which ensures that the reverse Polish calculator works as intended most of the time.

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Chapter 3

Namespace Documentation

3.1 Package ReversePolishCalculator

Classes

- class [ReversePolishCalculator](#)

*The class takes a string as input, and if the string is in the format of a reverse Polish calculator expression, then it will calculate and return the result. Features Can handle the operators: +, -, *, /, sqrt, cos, sin and pow (^) Can handle negative numbers if written in the form -x Tokens are separated by a whitespace. If a "token" includes a letter then the token is ignored.*

- class [ReversePolishCalculatorTests](#)

A test class which ensures that the reverse Polish calculator works as intended most of the time.

Chapter 4

Class Documentation

4.1 ReversePolishCalculator.ReversePolishCalculator Class Reference

The class takes a string as input, and if the string is in the format of a reverse Polish calculator expression, then it will calculate and return the result. Features Can handle the operators: +, -, *, /, sqrt, cos, sin and pov (^) Can handle negative numbers if written in the form -x Tokens are separated by a whitespace. If a "token" includes a letter then the token is ignored.

Static Public Member Functions

- static decimal [CalculateExpression](#) (string rpce)

Calculates the input reverse calculator string expression. Can handle a number of faulties.

4.1.1 Detailed Description

The class takes a string as input, and if the string is in the format of a reverse Polish calculator expression, then it will calculate and return the result. Features Can handle the operators: +, -, *, /, sqrt, cos, sin and pov (^) Can handle negative numbers if written in the form -x Tokens are separated by a whitespace. If a "token" includes a letter then the token is ignored.

4.1.2 Member Function Documentation

4.1.2.1 static decimal ReversePolishCalculator.ReversePolishCalculator.CalculateExpression (string rpce) [static]

Calculates the input reverse calculator string expression. Can handle a number of faulties.

Parameters

<i>rpce</i>	A String in the Reverse Polish Calculator expression format
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Returns

0 if faulty otherwise the result

The documentation for this class was generated from the following file:

- BDSA-Exercises/BDSA2014/ReversePolishCalculator/ReversePolishCalculator.cs

4.2 ReversePolishCalculator.ReversePolishCalculatorTests Class Reference

A test class which ensures that the reverse Polish calculator works as intended most of the time.

Public Member Functions

- void [TestNullInput](#) ()
Testcase where the input is null - should return 0.
- void [TestEmptyInput](#) ()
Testcase where the input is "" - should return 0.
- void [TestPlusOperator](#) ()
Testcase where the input contains a + operator (5 5 +) - should return 10.
- void [TestMinusOperator](#) ()
Testcase where the input contains a - operator (3 5 -) - should return -2.
- void [TestMultiplyOperator](#) ()
*Testcase where the input contains a * operator (3 4 *) - should return 12.*
- void [TestDivideOperator](#) ()
*Testcase where the input contains a / operator (12 4 *) - should return 3.*
- void [TestPovOperator](#) ()
Testcase where the input contains a pov ($^$) operator (5 2 pov) - should return 25. (2 5 $^$) - should return 32.
- void [TestSinOperator](#) ()
Testcase where the input contains sin operator (30 sin) - should return Math.Sin(30).
- void [TestCosOperator](#) ()
Testcase where the input contains cos operator (30 cos) - should return Math.Cos(30).
- void [TestSqrtOperator](#) ()
Testcase where the input contains sqrt operator (25 sqrt) - should return Math.Cos(5).
- void [TestComplexExpressionOperator](#) ()
Testcase where the input contains multiple operators and values.
- void [TestExpressionWithLettersOperator](#) ()
Testcase where the input contains letters and letters combined with numbers.

4.2.1 Detailed Description

A test class which ensures that the reverse Polish calculator works as intended most of the time.

4.2.2 Member Function Documentation

4.2.2.1 void ReversePolishCalculator.ReversePolishCalculatorTests.TestComplexExpressionOperator ()

Testcase where the input contains multiple operators and values.

4.2.2.2 void ReversePolishCalculator.ReversePolishCalculatorTests.TestCosOperator ()

Testcase where the input contains cos operator (30 cos) - should return Math.Cos(30).

4.2.2.3 void ReversePolishCalculator.ReversePolishCalculatorTests.TestDivideOperator ()

Testcase where the input contains a / operator (12 4 *) - should return 3.

4.2.2.4 void ReversePolishCalculator.ReversePolishCalculatorTests.TestEmptyInput ()

Testcase where the input is "" - should return 0.

4.2.2.5 void ReversePolishCalculator.ReversePolishCalculatorTests.TestExpressionWithLettersOperator ()

Testcase where the input contains letters and letters combined with numbers.

4.2.2.6 void ReversePolishCalculator.ReversePolishCalculatorTests.TestMinusOperator ()

Testcase where the input contains a - operator (3 5 -) - should return -2.

4.2.2.7 void ReversePolishCalculator.ReversePolishCalculatorTests.TestMultiplyOperator ()

Testcase where the input contains a * operator (3 4 *) - should return 12.

4.2.2.8 void ReversePolishCalculator.ReversePolishCalculatorTests.TestNullInput ()

Testcase where the input is null - should return 0.

4.2.2.9 void ReversePolishCalculator.ReversePolishCalculatorTests.TestPlusOperator ()

Testcase where the input contains a + operator (5 5 +) - should return 10.

4.2.2.10 void ReversePolishCalculator.ReversePolishCalculatorTests.TestPovOperator ()

Testcase where the input contains a pov (^) operator (5 2 pov) - should return 25. (2 5 ^) - should return 32.

4.2.2.11 void ReversePolishCalculator.ReversePolishCalculatorTests.TestSinOperator ()

Testcase where the input contains sin operator (30 sin) - should return Math.Sin(30).

4.2.2.12 void ReversePolishCalculator.ReversePolishCalculatorTests.TestSqrtOperator ()

Testcase where the input contains sqrt operator (25 sqrt) - should return Math.Cos(5).

The documentation for this class was generated from the following file:

- BDSA-Exercises/BDSA2014/ReversePolishCalculator/ReversePolishCalculator.tests.cs