

EhCalculator

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Chapter 1

Namespace Index

1.1 Packages

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

Calculator	7
Calculator.Models	7
MathFunctions	7
MathFunctionTests	7

Chapter 2

Hierarchical Index

2.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

Application	
Calculator.App	9
System.Windows.Application	
Calculator.App	9
Calculator.App	9
System.Windows.Markup.IComponentConnector	
Calculator.MainWindow	10
Calculator.MainWindow	10
MathFunctions.MathFunction	17
MathFunctionTests.MathFunctionTests	21
Calculator.OperationHelper	27
System.Windows.Window	
Calculator.MainWindow	10
Calculator.MainWindow	10
Window	
Calculator.MainWindow	10

Chapter 3

Class Index

3.1 Class List

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

Calculator.App	
Interaction logic for App.xaml	9
Calculator.MainWindow	
Interaction logic for MainWindow.xaml.	10
MathFunctions.MathFunction	
Class containing math functions Is based of Singleton design	17
MathFunctionTests.MathFunctionTests	
Tests for mathematical functions	21
Calculator.OperationHelper	
Class containing helper functions	27

Chapter 4

Namespace Documentation

4.1 Calculator Namespace Reference

Classes

- class [App](#)
Interaction logic for App.xaml
- class [MainWindow](#)
Interaction logic for MainWindow.xaml.
- class [OperationHelper](#)
Class containing helper functions

4.2 Calculator.Models Namespace Reference

Enumerations

- enum [OperationEnum](#) {
 Number = 0 , **Sum** = 1 , **Subtract** = 2 , **Multiply** = 3 ,
 Divide = 4 , **Factorial** = 5 , **Power** = 6 , **Root** = 7 ,
 Fibonacci = 8 , **Result** , **NoOperation** = 99 }
Operators

4.3 MathFunctions Namespace Reference

Classes

- class [MathFunction](#)
Class containing math functions Is based of Singleton design

4.4 MathFunctionTests Namespace Reference

Classes

- class [MathFunctionTests](#)
Tests for mathematical functions

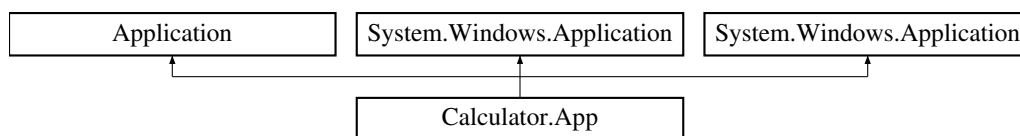
Chapter 5

Class Documentation

5.1 Calculator.App Class Reference

Interaction logic for App.xaml

Inheritance diagram for Calculator.App:



Public Member Functions

- void **InitializeComponent** ()
InitializeComponent
- void **InitializeComponent** ()
InitializeComponent

Static Public Member Functions

- static void **Main** ()
Application Entry Point.
- static void **Main** ()
Application Entry Point.

5.1.1 Detailed Description

Interaction logic for App.xaml

[App](#)

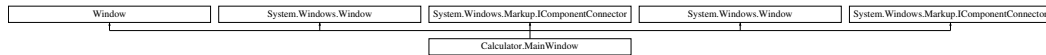
The documentation for this class was generated from the following files:

- C:/Users/Aorus/Desktop/unfinished projects/IVS - kalkulacka/src/Calculator/Calculator/App.xaml.cs
- C:/Users/Aorus/Desktop/unfinished projects/IVS - kalkulacka/src/Calculator/Calculator/obj/Debug/netcoreapp3.1/App.g.cs
- C:/Users/Aorus/Desktop/unfinished projects/IVS - kalkulacka/src/Calculator/Calculator/obj/Debug/netcoreapp3.1/App.g.i.cs

5.2 Calculator.MainWindow Class Reference

Interaction logic for MainWindow.xaml.

Inheritance diagram for Calculator.MainWindow:



Public Member Functions

- **MainWindow ()**
Constructor.
- void **InitializeComponent ()**
InitializeComponent
- void **InitializeComponent ()**
InitializeComponent

Properties

- **MathFunction MathFunction** [get, set]
Mathematical functions.
- **OperationEnum CalcAction** [get, set]
Current MATH operation (only MATH operations).
- **OperationEnum LastOperation** [get, set]
Last operation (any).
- string **LastResult = "0"** [get, set]
Variable with last result (for rollbacking if non-digit value is inputted).

Private Member Functions

- void **Button_Click** (object sender, RoutedEventArgs e)
Event handler for number click.
- void **Button_Mantisa_Click** (object sender, RoutedEventArgs e)
Event handler for mantisa.
- void **Button_Factorial_Click** (object sender, RoutedEventArgs e)
Event handler for factorial.
- void **Button_Plus_Click** (object sender, RoutedEventArgs e)
Event handler for addition.
- void **Button_Minus_Click** (object sender, RoutedEventArgs e)
Event handler for subtraction.
- void **Button_Result_Click** (object sender, RoutedEventArgs e)
Event handler for result.
- void **Button_Clear_Click** (object sender, RoutedEventArgs e)
Event handler for clearing values.
- void **resultTextBox_TextChanged** (object sender, TextChangedEventArgs e)
Event handler for resultTextBox. Its called when value in resultTextBox is changed.
- bool **Process ()**

- Function for processing math operations.*

 - void [Button_Multiply_Click](#) (object sender, RoutedEventArgs e)

Event handler for multiplication.
- void [Button_Divide_Click](#) (object sender, RoutedEventArgs e)

Event handler for division.
- void [Button_Pi_Click](#) (object sender, RoutedEventArgs e)

Event handler for pi.
- void [Button_E_Click](#) (object sender, RoutedEventArgs e)

Event handler for E.
- void [Button_n2_Click](#) (object sender, RoutedEventArgs e)

Event handler for power².
- void [Button_nx_Click](#) (object sender, RoutedEventArgs e)

Event handler for power^x.
- void [Button_Root_Click](#) (object sender, RoutedEventArgs e)

Event handler for root.
- void [Button_fib_Click](#) (object sender, RoutedEventArgs e)

Event handler for fibonacci.
- void [HandleKeyPress](#) (object sender, KeyEventArgs e)

Event handler for keyboard operations.
- void [Button_Help_Click](#) (object sender, RoutedEventArgs e)

Event handler for help MessageBox.
- void System.Windows.Markup.IComponentConnector. **Connect** (int connectionId, object target)
- void System.Windows.Markup.IComponentConnector. **Connect** (int connectionId, object target)

Private Attributes

- double? **valueStack**

Previous number (first operand).
- bool **NextDecimal** = false

Variable to check if next number is decimal.
- bool **NextNegative** = false

Variable to check if next number is negative.
- bool **_contentLoaded**

5.2.1 Detailed Description

Interaction logic for MainWindow.xaml.

[MainWindow](#)

5.2.2 Member Function Documentation

5.2.2.1 Button_Clear_Click()

```
void Calculator.MainWindow.Button_Clear_Click (
    object sender,
    RoutedEventArgs e ) [private]
```

Event handler for clearing values.

Parameters

<i>sender</i>	Source element
<i>e</i>	Event arguments

5.2.2.2 Button_Click()

```
void Calculator.MainWindow.Button_Click (
    object sender,
    RoutedEventArgs e ) [private]
```

Event handler for number click.

Parameters

<i>sender</i>	Source element
<i>e</i>	Event arguments

5.2.2.3 Button_Divide_Click()

```
void Calculator.MainWindow.Button_Divide_Click (
    object sender,
    RoutedEventArgs e ) [private]
```

Event handler for division.

Parameters

<i>sender</i>	Source element
<i>e</i>	Event arguments

5.2.2.4 Button_E_Click()

```
void Calculator.MainWindow.Button_E_Click (
    object sender,
    RoutedEventArgs e ) [private]
```

Event handler for E.

Parameters

<i>sender</i>	Source element
<i>e</i>	Event arguments

5.2.2.5 Button_Factorial_Click()

```
void Calculator.MainWindow.Button_Factorial_Click (
    object sender,
    RoutedEventArgs e ) [private]
```

Event handler for factorial.

Parameters

<i>sender</i>	Source element
<i>e</i>	Event arguments

5.2.2.6 Button_fib_Click()

```
void Calculator.MainWindow.Button_fib_Click (
    object sender,
    RoutedEventArgs e ) [private]
```

Event handler for fibonacci.

Parameters

<i>sender</i>	Source element
<i>e</i>	

5.2.2.7 Button_Help_Click()

```
void Calculator.MainWindow.Button_Help_Click (
    object sender,
    RoutedEventArgs e ) [private]
```

Event handler for help MessageBox.

Parameters

<i>sender</i>	Source element
<i>e</i>	Event arguments

5.2.2.8 Button_Mantisa_Click()

```
void Calculator.MainWindow.Button_Mantisa_Click (
    object sender,
    RoutedEventArgs e ) [private]
```

Event handler for mantisa.

Parameters

<i>sender</i>	Source element
<i>e</i>	Event arguments

5.2.2.9 Button_Minus_Click()

```
void Calculator.MainWindow.Button_Minus_Click (
    object sender,
    RoutedEventArgs e ) [private]
```

Event handler for subtraction.

Parameters

<i>sender</i>	Source element
<i>e</i>	Event arguments

5.2.2.10 Button_Multiply_Click()

```
void Calculator.MainWindow.Button_Multiply_Click (
    object sender,
    RoutedEventArgs e ) [private]
```

Event handler for multiplication.

Parameters

<i>sender</i>	Source element
<i>e</i>	Event arguments

5.2.2.11 Button_n2_Click()

```
void Calculator.MainWindow.Button_n2_Click (
```

```
object sender,  
RoutedEventArgs e ) [private]
```

Event handler for power².

Parameters

<i>sender</i>	Source element
<i>e</i>	Event arguments

5.2.2.12 Button_nx_Click()

```
void Calculator.MainWindow.Button_nx_Click (  
    object sender,  
    RoutedEventArgs e ) [private]
```

Event handler for power^x.

Parameters

<i>sender</i>	Source element
<i>e</i>	Event arguments

5.2.2.13 Button_Pi_Click()

```
void Calculator.MainWindow.Button_Pi_Click (  
    object sender,  
    RoutedEventArgs e ) [private]
```

Event handler for pi.

Parameters

<i>sender</i>	Source element
<i>e</i>	Event arguments

5.2.2.14 Button_Plus_Click()

```
void Calculator.MainWindow.Button_Plus_Click (  
    object sender,  
    RoutedEventArgs e ) [private]
```

Event handler for addition.

Parameters

<i>sender</i>	Source element
<i>e</i>	Event arguments

5.2.2.15 Button_Result_Click()

```
void Calculator.MainWindow.Button_Result_Click (
    object sender,
    RoutedEventArgs e ) [private]
```

Event hadler for result.

Parameters

<i>sender</i>	Source element
<i>e</i>	Event arguments

5.2.2.16 Button_Root_Click()

```
void Calculator.MainWindow.Button_Root_Click (
    object sender,
    RoutedEventArgs e ) [private]
```

Event handler for root.

Parameters

<i>sender</i>	Source element
<i>e</i>	Event arguments

5.2.2.17 HandleKeyPress()

```
void Calculator.MainWindow.HandleKeyPress (
    object sender,
    KeyEventArgs e ) [private]
```

Event handler for keyboard operations.

Parameters

<i>sender</i>	Source element
<i>e</i>	Event arguments

5.2.2.18 Process()

```
bool Calculator.MainWindow.Process ( ) [private]
```

Function for processing math operations.

Returns

True if calculated/False if not calculated

5.2.2.19 resultTextBox_TextChanged()

```
void Calculator.MainWindow.resultTextBox_TextChanged (
    object sender,
    TextChangedEventArgs e ) [private]
```

Event hadler for resultTextBox. Its called when value in resultTextBox is changed.

Parameters

<i>sender</i>	Source element
<i>e</i>	Event arguments

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

- C:/Users/Aorus/Desktop/unfinished projects/IVS - kalkulacka/src/Calculator/Calculator/MainWindow.xaml.cs
- C:/Users/Aorus/Desktop/unfinished projects/IVS - kalkulacka/src/Calculator/Calculator/obj/Debug/netcoreapp3.1/MainWindow.g.cs
- C:/Users/Aorus/Desktop/unfinished projects/IVS - kalkulacka/src/Calculator/Calculator/obj/Debug/netcoreapp3.1/MainWindow.g.i.cs

5.3 MathFunctions.MathFunction Class Reference

Class containing math functions Is based of Singleton design

Public Member Functions

- double [Sum](#) (double a, double b)
Calculates Summary of 2 numbers
- double [Subtract](#) (double a, double b)
Function for subtraction
- double [Multiply](#) (double a, double b)

Function for multiplication

- double [Divide](#) (double a, double b)

Function for division

- int [Factorial](#) (int a)

Function for factorial

- double [Power](#) (double a, int b)

Function for power

- double [Root](#) (double a, int b)

Function for root

- double [Fibonacci](#) (int a)

Function for fibonacci

Static Public Member Functions

- static [MathFunction](#) [GetInstance](#) ()

Static Private Attributes

- static [MathFunction](#) [instance](#) = null

5.3.1 Detailed Description

Class containing math functions Is based of Singleton design

5.3.2 Member Function Documentation

5.3.2.1 Divide()

```
double MathFunctions.MathFunction.Divide (
    double a,
    double b )
```

Function for division

Parameters

<i>a</i>	Operand 1
<i>b</i>	Operand 2

Returns

Result of division

5.3.2.2 Factorial()

```
int MathFunctions.MathFunction.Factorial (
    int a )
```

Function for factorial

Parameters

<i>a</i>	Operand 1
----------	-----------

Returns

Result of factorial

5.3.2.3 Fibonacci()

```
double MathFunctions.MathFunction.Fibonacci (
    int a )
```

Function for fibonacci

Parameters

<i>a</i>	Operand 1
----------	-----------

Returns

A-th fibonacci sequence

5.3.2.4 Multiply()

```
double MathFunctions.MathFunction.Multiply (
    double a,
    double b )
```

Function for multiplication

Parameters

<i>a</i>	Operand 1
<i>b</i>	Operand 2

Returns

Result of multiplication

5.3.2.5 Power()

```
double MathFunctions.MathFunction.Power (
    double a,
    int b )
```

Function for power

Parameters

<i>a</i>	Operand 1
<i>b</i>	Operand 2

Returns

A power on B

5.3.2.6 Root()

```
double MathFunctions.MathFunction.Root (
    double a,
    int b )
```

Function for root

Parameters

<i>a</i>	Operand 1
<i>b</i>	Operand 2

Returns

Result of b-th root

5.3.2.7 Subtract()

```
double MathFunctions.MathFunction.Subtract (
    double a,
    double b )
```

Function for subtraction

Parameters

<i>a</i>	Operand 1
<i>b</i>	Operand 2

Returns

Substraction of two numbers

5.3.2.8 Sum()

```
double MathFunctions.MathFunction.Sum (
    double a,
    double b )
```

Calculates Summary of 2 numbers

Parameters

<i>a</i>	Operand 1
<i>b</i>	Operand 2

Returns

Sum of two numbers

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

- C:/Users/Aorus/Desktop/unfinished projects/IVS - kalkulacka/src/Calculator/MathFunctions/MathFunctions.↔
cs

5.4 MathFunctionTests.MathFunctionTests Class Reference

Tests for mathematical functions

Public Member Functions

- void [TestSum](#) (double value1, double value2, double expected_result)
Test for Sum function
- void [TestSubstract](#) (double value1, double value2, double expected_result)
Test for Substract function
- void [TestMultiply](#) (double value1, double value2, double expected_result)
Test for Multiply function
- void [TestDivision](#) (double value1, double value2, double expected_result)

Test for Division function

- void [TestDivisionByZero](#) (double value1, double value2)

Test for Division by zero

- void [TestFactorial](#) (int value1, double expected_result)

Test for Factorial function

- void [TestFactorialNegative](#) (int value1)

Test for negative faktorial

- void [TestPower](#) (double value1, int value2, double expected_result)

Test for Power function

- void [TestPowerNegative](#) (double value1, int value2)

Test for negative power

- void [TestRoot](#) (double value1, int value2, double expected_result)

Test for Root function

- void [TestRootNegative](#) (double value1, int value2)

Test for negative root

- void [TestFibonacci](#) (int value1, int expected_result)

Test for Fibonacci sequence

- void [TestFibonacciNegative](#) (int value1)

Test for negative Fibonacci

Public Attributes

- [MathFunction](#) **mathFunctions**

5.4.1 Detailed Description

Tests for mathematical functions

5.4.2 Member Function Documentation

5.4.2.1 TestDivision()

```
void MathFunctionTests.MathFunctionTests.TestDivision (
    double value1,
    double value2,
    double expected_result )
```

Test for Division function

Parameters

<i>value1</i>	Operand 1
<i>value2</i>	Operand 2
<i>expected_result</i>	Expected result of division

5.4.2.2 TestDivisionByZero()

```
void MathFunctionTests.MathFunctionTests.TestDivisionByZero (
    double value1,
    double value2 )
```

Test for Division by zero

Parameters

<i>value1</i>	Operand 1
<i>value2</i>	Operand 2

5.4.2.3 TestFactorial()

```
void MathFunctionTests.MathFunctionTests.TestFactorial (
    int value1,
    double expected_result )
```

Test for Factorial function

Parameters

<i>value1</i>	Operand 1
<i>expected_result</i>	Expected result of factorial

5.4.2.4 TestFactorialNegative()

```
void MathFunctionTests.MathFunctionTests.TestFactorialNegative (
    int value1 )
```

Test for negative faktorial

Parameters

<i>value1</i>	Operand 1
---------------	-----------

5.4.2.5 TestFibonacci()

```
void MathFunctionTests.MathFunctionTests.TestFibonacci (
```

```
int value1,
int expected_result )
```

Test for Fibonacci sequence

Parameters

<i>value1</i>	Operand 1
<i>expected_result</i>	Expected result of fibonacci

5.4.2.6 TestFibonacciNegative()

```
void MathFunctionTests.MathFunctionTests.TestFibonacciNegative (
    int value1 )
```

Test for negative Fibonacci

Parameters

<i>value1</i>	Operand 1
---------------	-----------

5.4.2.7 TestMultiply()

```
void MathFunctionTests.MathFunctionTests.TestMultiply (
    double value1,
    double value2,
    double expected_result )
```

Test for Multiply function

Parameters

<i>value1</i>	Operand 1
<i>value2</i>	Operand 2
<i>expected_result</i>	Expected result of multiplication

5.4.2.8 TestPower()

```
void MathFunctionTests.MathFunctionTests.TestPower (
    double value1,
    int value2,
    double expected_result )
```

Test for Power function

Parameters

<i>value1</i>	Operand 1
<i>value2</i>	Operand 2
<i>expected_result</i>	Expected result of power

5.4.2.9 TestPowerNegative()

```
void MathFunctionTests.MathFunctionTests.TestPowerNegative (
    double value1,
    int value2 )
```

Test for negative power

Parameters

<i>value1</i>	Operand 1
<i>value2</i>	Operand 2

5.4.2.10 TestRoot()

```
void MathFunctionTests.MathFunctionTests.TestRoot (
    double value1,
    int value2,
    double expected_result )
```

Test for Root function

Parameters

<i>value1</i>	Operand 1
<i>value2</i>	Operand 2
<i>expected_result</i>	Expected result of root

5.4.2.11 TestRootNegative()

```
void MathFunctionTests.MathFunctionTests.TestRootNegative (
    double value1,
    int value2 )
```

Test for negative root

Parameters

<i>value1</i>	Operand 1
<i>value2</i>	Operand 2

5.4.2.12 TestSubtract()

```
void MathFunctionTests.MathFunctionTests.TestSubtract (
    double value1,
    double value2,
    double expected_result )
```

Test for Subtract function

Parameters

<i>value1</i>	Operand 1
<i>value2</i>	Operand 2
<i>expected_result</i>	Expected result of subtraction

5.4.2.13 TestSum()

```
void MathFunctionTests.MathFunctionTests.TestSum (
    double value1,
    double value2,
    double expected_result )
```

Test for Sum function

Parameters

<i>value1</i>	Operand 1
<i>value2</i>	Operand 2
<i>expected_result</i>	Expected result of sum

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

- C:/Users/Aorus/Desktop/unfinished projects/IVS - kalkulacka/src/Calculator/MathFunctions.Tests/MathFunctionTests.cs

5.5 Calculator.OperationHelper Class Reference

Class containing helper functions

Static Public Member Functions

- static string [GetResult](#) ([OperationEnum](#) operation, double operand1, double? operand2=null)
Returns result of performed operation

Static Private Attributes

- static [MathFunction](#) **MathFunction** = MathFunction.GetInstance()

5.5.1 Detailed Description

Class containing helper functions

5.5.2 Member Function Documentation

5.5.2.1 GetResult()

```
static string Calculator.OperationHelper.GetResult (  
    OperationEnum operation,  
    double operand1,  
    double? operand2 = null ) [static]
```

Returns result of performed operation

Parameters

<i>operation</i>	
<i>operand1</i>	
<i>operand2</i>	

Returns

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

- C:/Users/Aorus/Desktop/unfinished projects/IVS - kalkulacka/src/Calculator/Calculator/OperationHelper.cs

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