Brno University of Technology
Faculty of Information Technology

IVS

New Meta Calculator
Documentation

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Contents

Chapter 1

IVS-New-Meta

Prostredi

Ubuntu 64bit

Autori

New Meta

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Licence

Chapter 2

Hierarchical Index

2.1 Class Hierarchy

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

Chapter 3

Class Index

3.1 Class List

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

Chapter 4

File Index

4.1 File List

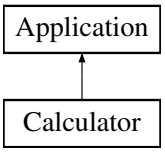
Here is a list of all documented files with brief descriptions:

Chapter 5

Class Documentation

5.1 Calculator Class Reference

Inheritance diagram for Calculator:



Public Member Functions

- void **start** (Stage stage) throws Exception

Static Public Member Functions

- static void main (String[ ] args)

  Main function of the calculator.

5.1.1 Member Function Documentation

5.1.1.1 main()

```
static void Calculator.main (
            String [] args )  [inline], [static]
```

Main function of the calculator.

Parameters

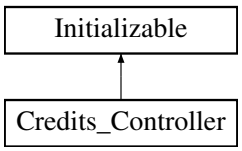
args	the command line arguments

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

- /home/bblaskova/NetBeansProjects/IVS-New-Meta/src/Calculator.java

5.2 Credits_Controller Class Reference

Inheritance diagram for Credits_Controller:



Public Member Functions

- void initialize (URL url, ResourceBundle rb)

Private Member Functions

- void GNU_link (ActionEvent event) throws IOException

  Link pressed.
- void creditsAction (ActionEvent event)

  Credits button pressed.
- void closeAction (ActionEvent event)

  Close button pressed.

Private Attributes

- Button **closeAbout**
- ToggleButton **creditsButton**
- Pane **bg_pane**
- TextArea **bg_pane_text**
- TextField **dsg**
- TextField **crt**
- TextField **dcm**
- Hyperlink **link**

5.2.1 Member Function Documentation

5.2.1.1 closeAction()

```
void Credits_Controller.closeAction (
            ActionEvent event )  [inline], [private]
```

Close button pressed.

Parameters

event	Represents action of pressing a button Close Credits window.

5.2.1.2 creditsAction()

```
void Credits_Controller.creditsAction (
            ActionEvent event )  [inline], [private]
```

Credits button pressed.

Parameters

event	Represents action of pressing a button Make textField with credits visible.

5.2.1.3 GNU_link()

```
void Credits_Controller.GNU_link (
            ActionEvent event ) throws IOException  [inline], [private]
```

Link pressed.

Parameters

event	Represents action of pressing a button Click on link opens wanted URL in browser window.

5.2.1.4 initialize()

```
void Credits_Controller.initialize (
            URL url,
            ResourceBundle rb )  [inline]
```

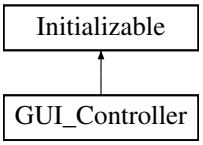
Initializes the controller class.

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

- /home/bblaskova/NetBeansProjects/IVS-New-Meta/src/Credits_Controller.java

5.3 GUI_Controller Class Reference

Inheritance diagram for GUI_Controller:



Public Member Functions

- void **initialize** (URL url, ResourceBundle rb)

Private Member Functions

- void zeroAction (ActionEvent event)

  Zero button pressed.
- void oneAction (ActionEvent event)

  Button '1' pressed.
- void twoAction (ActionEvent event)

  Button '2' pressed.
- void threeAction (ActionEvent event)

  Button '3' pressed.
- void fourAction (ActionEvent event)

  Button '4' pressed.
- void fiveAction (ActionEvent event)

  Button '5' pressed.
- void sixAction (ActionEvent event)

  Button '6' pressed.
- void sevenAction (ActionEvent event)

  Button '7' pressed.
- void eigthAction (ActionEvent event)

  Button '8' pressed.
- void nineAction (ActionEvent event)

  Button '9' pressed.
- void DELAction (ActionEvent event)

  Button 'DEL' pressed.
- void CAction (ActionEvent event)

  Button 'C' pressed.
- void equalAction (ActionEvent event)

  Button '=' pressed.
- void dotAction (ActionEvent event)

  Button '.' pressed.
- void plusAction (ActionEvent event)

  Button '+' pressed.
- void minusAction (ActionEvent event)

  Button '-' pressed.
- void moduloAction (ActionEvent event)

Button '' pressed.

- void sqrtAction (ActionEvent event)

  Button 'sqrt' pressed.
- void powAction (ActionEvent event)

  Button '^' pressed.
- void multiAction (ActionEvent event)

  Button '' pressed.*
- void divAction (ActionEvent event)

  Button '/' pressed.
- void factAction (ActionEvent event)

  Button '!' pressed.
- void helpAction (ActionEvent event)

  Button '?' pressed.
- void mid_result ()

  Function print result of selected operation on display. Depending on value in operation, function calls wanted method from math library. Function use value of operand_one as first operand , load number on display into operand_two and use it as second operand for selected operation. Check if number is integer or floating point number and print value on display.
- long is_int (double x)

  Function will chceck whether the given number is integer or not.
- void reset ()

  Fucntion resets calculator display and all needed calculator variables.

Private Attributes

- TextField **display**
- TextField **OP_display**
- double **operand_one**
- boolean **dot_flag**
- int **operation**

5.3.1 Member Function Documentation

5.3.1.1 CAction()

```
void GUI_Controller.CAction (
            ActionEvent event )  [inline], [private]
```

Button 'C' pressed.

Parameters

event	Represents action of pressing a button When button 'C' is pressed calls function reset.

5.3.1.2 DELAction()

```
void GUI_Controller.DELAction (
            ActionEvent event )  [inline], [private]
```

Button 'DEL' pressed.

Parameters

event	Represents action of pressing a button Delete last inserted value on display. If after DEL display would be empty also resets all calculator variables.

5.3.1.3 divAction()

```
void GUI_Controller.divAction (
            ActionEvent event )  [inline], [private]
```

Button '/' pressed.

Parameters

event	Represents action of pressing a button Function load value on display into operand_one. Set operation value on 4. Set reset_D on true. Set dot_flag on false;

5.3.1.4 dotAction()

```
void GUI_Controller.dotAction (
            ActionEvent event )  [inline], [private]
```

Button '.' pressed.

Parameters

event	Represents action of pressing a button Prints dot on display. Only one dot can be displayed.

5.3.1.5 eigthAction()

```
void GUI_Controller.eigthAction (
            ActionEvent event )  [inline], [private]
```

Button '8' pressed.

Parameters

event	Represents action of pressing a button Print eight on display. If reset_D is true also reset display.

5.3.1.6 equalAction()

```
void GUI_Controller.equalAction (
            ActionEvent event )  [inline], [private]
```

Button '=' pressed.

Parameters

event	Represents action of pressing a button When button '=' is pressed calls function mid_result().

5.3.1.7 factAction()

```
void GUI_Controller.factAction (
            ActionEvent event )  [inline], [private]
```

Button '!' pressed.

Parameters

event	Represents action of pressing a button Set operation value on 8. Function load value on display into operand_one and call mid_result(). Set reset_D on true. Set dot_flag on false;

5.3.1.8 fiveAction()

```
void GUI_Controller.fiveAction (
            ActionEvent event )  [inline], [private]
```

Button '5' pressed.

Parameters

event	Represents action of pressing a button Print five on display. If reset_D is true also reset display.

5.3.1.9 fourAction()

```
void GUI_Controller.fourAction (
            ActionEvent event )  [inline], [private]
```

Button '4' pressed.

Parameters

event	Represents action of pressing a button Print four on display. If reset_D is true also reset display.

5.3.1.10 helpAction()

```
void GUI_Controller.helpAction (
            ActionEvent event )  [inline], [private]
```

Button '?' pressed.

Parameters

event	Represents action of pressing a button Function opens HELP window.

5.3.1.11 is_int()

```
long GUI_Controller.is_int (
            double x )  [inline], [private]
```

Function will chceck whether the given number is integer or not.

Parameters

x	Number to be checked.

Returns

Integer representation of number if number was x.0, or -1 if not.

5.3.1.12 minusAction()

```
void GUI_Controller.minusAction (
            ActionEvent event )  [inline], [private]
```

Button '-' pressed.

Parameters

event	Represents action of pressing a button If display length is zero function prints '-' on display if display is empty. If display length is not zero function load value on display into operand_one. Set operation value on 3. Set reset_D on true. Set dot_flag on false;

5.3.1.13 moduloAction()

```
void GUI_Controller.moduloAction (
            ActionEvent event )  [inline], [private]
```

Button '' pressed.

Parameters

event	Represents action of pressing a button Function load value on display into operand_one. Set operation value on 6. Set reset_D on true. Set dot_flag on false;

5.3.1.14 multiAction()

```
void GUI_Controller.multiAction (
            ActionEvent event )  [inline], [private]
```

Button '∗' pressed.

Parameters

event	Represents action of pressing a button Function load value on display into operand_one. Set operation value on 2. Set reset_D on true. Set dot_flag on false;

5.3.1.15 nineAction()

```
void GUI_Controller.nineAction (
            ActionEvent event )  [inline], [private]
```

Button '9' pressed.

Parameters

event	Represents action of pressing a button Print nine on display. If reset_D is true also reset display.

5.3.1.16 oneAction()

```
void GUI_Controller.oneAction (
            ActionEvent event )  [inline], [private]
```

Button '1' pressed.

Parameters

event	Represents action of pressing a button Print one on display. If reset_D is true also reset display.

5.3.1.17 plusAction()

```
void GUI_Controller.plusAction (
            ActionEvent event )  [inline], [private]
```

Button '+' pressed.

Parameters

event	Represents action of pressing a button Function load value on display into operand_one. Set operation value on 1. Set reset_D on true. Set dot_flag on false;

5.3.1.18 powAction()

```
void GUI_Controller.powAction (
            ActionEvent event )  [inline], [private]
```

Button '^' pressed.

Parameters

event	Represents action of pressing a button Function load value on display into operand_one. Set operation value on 5. Set reset_D on true. Set dot_flag on false;

5.3.1.19 sevenAction()

```
void GUI_Controller.sevenAction (
            ActionEvent event )  [inline], [private]
```

Button '7' pressed.

Parameters

event	Represents action of pressing a button Print seven on display. If reset_D is true also reset display.

5.3.1.20 sixAction()

```
void GUI_Controller.sixAction (
            ActionEvent event )  [inline], [private]
```

Button '6' pressed.

Parameters

event	Represents action of pressing a button Print six on display. If reset_D is true also reset display.

5.3.1.21 sqrtAction()

```
void GUI_Controller.sqrtAction (
            ActionEvent event )  [inline], [private]
```

Button 'sqrt' pressed.

Parameters

event	Represents action of pressing a button Function load value on display into operand_one. Set operation value on 7. Set reset_D on true. Set dot_flag on false;

5.3.1.22 threeAction()

```
void GUI_Controller.threeAction (
            ActionEvent event )  [inline], [private]
```

Button '3' pressed.

Parameters

event	Represents action of pressing a button Print three on display. If reset_D is true also reset display.

5.3.1.23 twoAction()

```
void GUI_Controller.twoAction (
            ActionEvent event )  [inline], [private]
```

Button '2' pressed.

Parameters

event	Represents action of pressing a button Print two on display. If reset_D is true also reset display.

5.3.1.24 zeroAction()

```
void GUI_Controller.zeroAction (
            ActionEvent event )  [inline], [private]
```

Zero button pressed.

Parameters

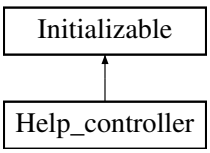
event	Represents action of pressing a button Print zero on display. If reset_D is true also reset display.

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

- /home/bblaskova/NetBeansProjects/IVS-New-Meta/src/GUI_Controller.java

5.4 Help_controller Class Reference

Inheritance diagram for Help_controller:



Public Member Functions

- void **initialize** (URL url, ResourceBundle rb)

Private Member Functions

- void closeAction (ActionEvent event)

  Button 'About' pressed.
- void creditsAction (ActionEvent event)

  Button 'About' pressed.

Private Attributes

- Button **closeWindow**

5.4.1 Member Function Documentation

5.4.1.1 closeAction()

```
void Help_controller.closeAction (
            ActionEvent event )  [inline], [private]
```

Button 'About' pressed.

Parameters

event	Represents action of pressing a button Function close Help window.

5.4.1.2 creditsAction()

```
void Help_controller.creditsAction (
            ActionEvent event )  [inline], [private]
```

Button 'About' pressed.

Parameters

event	Represents action of pressing a button Function opens Credits window.

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

- /home/bblaskova/NetBeansProjects/IVS-New-Meta/src/Help_controller.java

5.5 math Class Reference

Static Public Member Functions

- static double add (double x, double y)

  Function will add two double numbers.
- static long add (long x, long y)

  Function will add two integer numbers.
- static double add (double x, long y)

Function will add two numbers - one integer and one double.

- static double add (long x, double y)

  Function will add two numbers - one integer and one double.
- static double sub (double x, double y)

  Substraction of two numbers.
- static double multiply (double x, double y)

  Function will multiply two double numbers.
- static long multiply (long x, long y)

  Function will multiply two integer numbers.
- static double multiply (long x, double y)

  Function will multiply two numbers - one double and one integer.
- static double multiply (double x, long y)

  Function will multiply two numbers - one double and one integer.
- static double divide (double x, double y)

  Division of two numbers.
- static long factorial (long num)

  Function will calculate a factorial of a given number.
- static double pow (double x, int y)
- static int pow (int x, int y)
- static long mod (long x, long y)

  Modulo function.
- static double root (double x, double root)

  Sqrt function.

5.5.1 Member Function Documentation

5.5.1.1 add() [1/4]

```
static double math.add (
            double x,
            double y )  [inline], [static]
```

Function will add two double numbers.

Parameters

x	first number for operation
y	second number for operation

Returns

result of adding two parameters

5.5.1.2 add() [2/4]

```
static long math.add (
            long x,
            long y )  [inline], [static]
```

Function will add two integer numbers.

Parameters

x	first number for operation
y	second number for operation

Returns

result of adding two parameters

5.5.1.3 add() [3/4]

```
static double math.add (
            double x,
            long y )  [inline], [static]
```

Function will add two numbers - one integer and one double.

Parameters

x	first number for operation
y	second number for operation

Returns

result of adding two parameters

5.5.1.4 add() [4/4]

```
static double math.add (
            long x,
            double y )  [inline], [static]
```

Function will add two numbers - one integer and one double.

Parameters

x	first number for operation
y	second number for operation

Returns

result of adding two parameters

5.5.1.5 divide()

```
static double math.divide (
            double x,
            double y )  [inline], [static]
```

Division of two numbers.

Parameters

x	divident
y	divisor

Returns

result of dividing two numbers

5.5.1.6 factorial()

```
static long math.factorial (
            long num )  [inline], [static]
```

Function will calculate a factorial of a given number.

Parameters

num	number from which we want factorial to be calculated from

Returns

value of the factorial

5.5.1.7 mod()

```
static long math.mod (
            long x,
            long y )  [inline], [static]
```

Modulo function.

Parameters

x	divident
y	divisor

Returns

the remainder from division

5.5.1.8 multiply() [1/4]

```
static double math.multiply (
            double x,
            double y )  [inline], [static]
```

Function will multiply two double numbers.

Parameters

x	first number for operation
y	second number for operation

Returns

result of multiplying two numbers

5.5.1.9 multiply() [2/4]

```
static long math.multiply (
            long x,
            long y )  [inline], [static]
```

Function will multiply two integer numbers.

Parameters

x	first number for operation
y	second number for operation

Returns

result of multiplying two numbers

5.5.1.10 multiply() [3/4]

```
static double math.multiply (
            long x,
            double y )  [inline], [static]
```

Function will multiply two numbers - one double and one integer.

Parameters

x	first number for operation
y	second number for operation

Returns

result of multiplying two numbers

5.5.1.11 multiply() [4/4]

```
static double math.multiply (
            double x,
            long y )  [inline], [static]
```

Function will multiply two numbers - one double and one integer.

Parameters

x	first number for operation
y	second number for operation

Returns

result of multiplying two numbers

5.5.1.12 pow() [1/2]

```
static double math.pow (
            double x,
            int y )  [inline], [static]
```

Parameters

x	floating point base value
y	power value

Returns

result of raising x to the power y

5.5.1.13 pow() [2/2]

```
static int math.pow (
            int x,
            int y )  [inline], [static]
```

Parameters

x	floating point base value
y	power value

Returns

result of raising x to the power y

5.5.1.14 root()

```
static double math.root (
            double x,
            double root )  [inline], [static]
```

Sqrt function.

Parameters

x	number to be rooted
root	root of the number

Returns

result of operation

5.5.1.15 sub()

```
static double math.sub (
            double x,
            double y )  [inline], [static]
```

Substraction of two numbers.

Parameters

x	first number for operation
y	second number for operation

Returns

result of substracting two numbers

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

- /home/bblaskova/NetBeansProjects/IVS-New-Meta/src/math.java

5.6 mathTest Class Reference

Public Member Functions

- void **setUp** () throws Exception
- void **tearDown** () throws Exception
- void testAdd ()
- void testSub ()
- void testMultiply ()
- void testDivide ()
- void testFactorial ()
- void testPow ()
- void testMod ()
- void testAdd_double_double ()
- void testAdd_long_long ()
- void testAdd_double_long ()
- void testAdd_long_double ()
- void testMultiply_double_double ()
- void testMultiply_long_long ()
- void testMultiply_long_double ()
- void testMultiply_double_long ()
- void testPow_double_int ()
- void testPow_int_int ()
- void testRoot ()

Static Public Member Functions

- static void **setUpClass** () throws Exception
- static void **tearDownClass** () throws Exception

5.6.1 Member Function Documentation

5.6.1.1 testAdd()

```
void mathTest.testAdd ( )  [inline]
```

Test of add method, of class math.

5.6.1.2 testAdd_double_double()

```
void mathTest.testAdd_double_double ( )  [inline]
```

Test of add method, of class math. Double, Double

5.6.1.3 testAdd_double_long()

```
void mathTest.testAdd_double_long ( )  [inline]
```

Test of add method, of class math. Double, Long

5.6.1.4 testAdd_long_double()

```
void mathTest.testAdd_long_double ( )  [inline]
```

Test of add method, of class math. Long, Double

5.6.1.5 testAdd_long_long()

```
void mathTest.testAdd_long_long ( )  [inline]
```

Test of add method, of class math. Long, Long

5.6.1.6 testDivide()

```
void mathTest.testDivide ( )  [inline]
```

Test of divide method, of class math.

5.6.1.7 testFactorial()

```
void mathTest.testFactorial ( )  [inline]
```

Test of factorial method, of class math.

5.6.1.8 testMod()

```
void mathTest.testMod ( )  [inline]
```

Test of mod method, of class math.

5.6.1.9 testMultiply()

```
void mathTest.testMultiply ( )  [inline]
```

Test of multiply method, of class math.

5.6.1.10 testMultiply_double_double()

```
void mathTest.testMultiply_double_double ( )  [inline]
```

Test of multiply method, of class math. Double, Double

5.6.1.11 testMultiply_double_long()

```
void mathTest.testMultiply_double_long ( )  [inline]
```

Test of multiply method, of class math. Double, Long

5.6.1.12 testMultiply_long_double()

```
void mathTest.testMultiply_long_double ( )  [inline]
```

Test of multiply method, of class math. Long, Double

5.6.1.13 testMultiply_long_long()

```
void mathTest.testMultiply_long_long ( )  [inline]
```

Test of multiply method, of class math. Long, Long

5.6.1.14 testPow()

```
void mathTest.testPow ( )  [inline]
```

Test of pow method, of class math.

5.6.1.15 testPow_double_int()

```
void mathTest.testPow_double_int ( )  [inline]
```

Test of pow method, of class math. Double, Int

5.6.1.16 testPow_int_int()

```
void mathTest.testPow_int_int ( )  [inline]
```

Test of pow method, of class math. Int, Int

5.6.1.17 testRoot()

```
void mathTest.testRoot ( )  [inline]
```

Test of root method, of class math.

5.6.1.18 testSub()

```
void mathTest.testSub ( )  [inline]
```

Test of sub method, of class math.

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

- /home/bblaskova/NetBeansProjects/IVS-New-Meta/test/mathTest.java

Chapter 6

File Documentation

6.1 /home/bblaskova/NetBeansProjects/IVS-New-Meta/src/Calculator.java File Reference

Main class - Calculator.

Classes

- class Calculator

6.1.1 Detailed Description

Main class - Calculator.

Author

xcrkon00

6.2 /home/bblaskova/NetBeansProjects/IVS-New-Meta/src/GUI_Controller.java File Reference

Contains button actions.

Classes

- class GUI_Controller

6.2.1 Detailed Description

Contains button actions.

FXML Controller class

Author

xcrkon00

6.3 /home/bblaskova/NetBeansProjects/IVS-New-Meta/src/math.java File Reference

Class with mathematic operation used in calculator.

Classes

- class math

6.3.1 Detailed Description

Class with mathematic operation used in calculator.

Author

xblask04

6.4 /home/bblaskova/NetBeansProjects/IVS-New-Meta/test/mathTest.java File Reference

Tests for math.java library.

Classes

- class mathTest

6.4.1 Detailed Description

Tests for math.java library.

Author

xkosti07

Index