Numbo

Generated by Doxygen 1.9.4

Chapter 1

Namespace Index

1.1 Namespace List

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

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

Namespace Documentation

4.1 HelpWindow Namespace Reference

Classes

- class Ui_MainWindow

Variables

- **app** = QtWidgets.QApplication(sys.argv)
- **MainWindow** = QtWidgets.QMainWindow()
- **ui** = Ui_MainWindow()

4.1.1 Detailed Description

```
HelpWindow.py created by: PyQt5 UI code generator 5.14.1
```

4.2 ivsmath Namespace Reference

Classes

- class InvalidRadical
- class Operator
- class Precedence

Functions

- def get_infix (string)
- def get_postfix (infix)
- def division (a, b)
- def radical (a, b)
- def factorial (a)
- def power (a, b)
- def sin (x)
- def handle_operation (stack, operator)
- def evaluate_postfix (postfix)
- def format_expr (x)
- def evaluate_expression (expression)

Variables

- **expression** = input()

4.2.1 Detailed Description

```
 Math library for calculator Numbo
```

4.2.2 Function Documentation

4.2.2.1 division()

```
def ivsmath.division (
              a,
              b )
```

```
It divides b by a

Args:
    a (float): The number to divide by
    b (float): The first number
Returns:
    float: Division of the given numbers
```

4.2.2.2 evaluate_expression()

```
def ivsmath.evaluate_expression (
              expression )
```

```
It evaluates the expression

Args:
    expression (str): The math expression to evaluate

Returns:
    (str): Result
```

4.2.2.3 evaluate_postfix()

```
def ivsmath.evaluate_postfix (
              postfix )
```

```
It evaluates a postfix expression.

Args:
    postfix (str): List of postfix epression

Returns:
    float: Result
```

4.2.2.4 factorial()

```
def ivsmath.factorial (
              a )
```

```
It calculates the factorial.

Args:
    a (float): The number to find the factorial of

Returns:
    int: Factorial of a
```

4.2.2.5 format_expr()

```
def ivsmath.format_expr (
              x )
```

```
The function formats a given number by limiting the number of digits before and after the decimal
point and converting it to scientific notation if necessary.

Args:
    x (float): The input value that needs to be formatted

Returns:
    str: Formatted version of the input `x`
```

4.2.2.6 get_infix()

```
def ivsmath.get_infix (
              string )
```

```
It takes a string and returns the infix expression.

Args:
    string (str): The string to be converted to infix

Returns:
    list: infix list
```

4.2.2.7 get_postfix()

```
def ivsmath.get_postfix (
              infix )

It converts infix to postfix

Args:
    infix (list): The infix expression to be converted to postfix

Returns:
    list: postfix list
```

4.2.2.8 handle_operation()

```
def ivsmath.handle_operation (
              stack,
              operator )

It handles the operations for evaluate_postfix

Args:
    stack (list): List of numbers
    operator (list): The operator to be applied to the stack.
```

4.2.2.9 power()

```
def ivsmath.power (
              a,
              b )

It returns the value of a to the power of b.

Args:
    a (float): The exponent
    b (float): The base
Returns:
    float: a to the power of b
```

4.2.2.10 radical()

```
def ivsmath.radical (
              a,
              b )

It calculates the radical.

Args:
    b (float): The index
    a (float): The radicand
Returns:
    float: The a root of b
```

4.2.2.11 sin()

```
def ivsmath.sin (
              x )
```

```
The function calculates the sine of an angle in degrees using the Taylor series approximation.

Args:
    x (float): The input angle in degrees for which the sine value needs to be calculated.

Returns:
    float: The sine value of the input angle in radians, rounded to 10 decimal places.
```

4.3 kalkulacka Namespace Reference

Classes

- class Ui_Calculator

Variables

- string **buffer** = ''
- bool **pow** = False
- int **lenpow** = 0
- int **index** = -2
- **app** = QtWidgets.QApplication(sys.argv)
- **Calculator** = QtWidgets.QMainWindow()
- **ui** = Ui_Calculator()

4.3.1 Detailed Description

```
 GUI for Numbo calculator
```

4.4 profiler Namespace Reference

Variables

- **results** = pstats.Stats(profile)

4.4.1 Detailed Description

```
Program for profiling stddev.py
```

4.5 stddev Namespace Reference

Functions

- def convert_string ()
- def arithmetic_mean ()
- def variance ()
- def standard_deviation ()

4.5.1 Detailed Description

```
Calculates the standard deviation.
```

4.5.2 Function Documentation

4.5.2.1 arithmetic_mean()

```
def stddev.arithmetic_mean ( )
```

```
Calculates the arithmetic mean of the given input numbers.
```

4.5.2.2 convert_string()

```
def stddev.convert_string ( )
```

```
Converts input to floats.
```

4.5.2.3 standard_deviation()

```
def stddev.standard_deviation ( )
```

```
Calculates the standard deviation based on the variance.
```

4.5.2.4 variance()

```
def stddev.variance ( )
```

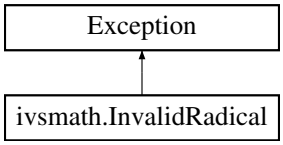
```
 Calculates the variance based on the arithmetic mean and the given input numbers.
```

Chapter 5

Class Documentation

5.1 ivsmath.InvalidRadical Class Reference

Inheritance diagram for ivsmath.InvalidRadical:



5.1.1 Detailed Description

```
Raised when there is number < 0 under even radical
```

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

- ivsmath.py

5.2 ivsmath.Operator Class Reference

Public Member Functions

- def **__init__** (self, char)
- def **get_eval** (self)
- def **__le__** (self, other)
- def **__ge__** (self, other)

Public Attributes

- **char**

5.2.1 Detailed Description

```
Operator class for comparing precedences
```

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

- ivsmath.py

5.3 ivsmath.Precedence Class Reference

Static Public Attributes

- int **PLUS** = 1
- int **MINUS** = 1
- int **MUL** = 2
- int **DIV** = 2
- int **POW** = 3
- int **RADICAL** = 3
- int **FAC** = 4
- int **SIN** = 4
- int **BRACKET** = 5

5.3.1 Detailed Description

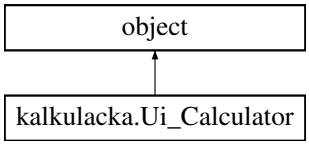
```
Precedence enum
contains operators and their precedence
```

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

- ivsmath.py

5.4 kalkulacka.Ui_Calculator Class Reference

Inheritance diagram for kalkulacka.Ui_Calculator:



Public Member Functions

- def **openHelp** (self)
- def **setupUi** (self, Calculator)
- def **retranslateUi** (self, Calculator)

Public Attributes

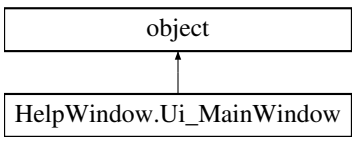
- **window**
- **ui**
- **centralwidget**
- **label**
- **button1**
- **button4**
- **button7**
- **button8**
- **button5**
- **button2**
- **button3**
- **button6**
- **button9**
- **pushButton_0**
- **buttoneq**
- **buttondel**
- **buttonplus**
- **buttonsub**
- **buttonmul**
- **buttondiv**
- **buttonpow**
- **buttonodmocnina**
- **buttofactorial**
- **buttonsin**
- **buttonclear**
- **buttonlb**
- **buttonrb**
- **pushciarka**
- **ytaodmocnia**
- **menubar**
- **menuHelp**
- **statusbar**
- **actionOpen_Manual**

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

- kalkulacka.py

5.5 HelpWindow.Ui_MainWindow Class Reference

Inheritance diagram for HelpWindow.Ui_MainWindow:



Public Member Functions

- def **setupUi** (self, MainWindow)
- def **retranslateUi** (self, MainWindow)

Public Attributes

- **centralwidget**
- **textBrowser**
- **menubar**
- **statusbar**

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

- HelpWindow.py

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