

## Calculator

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# Chapter 1

## Hierarchical Index

### 1.1 Class Hierarchy

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

object	
calculator.Ui_MainWindow	7



## Chapter 2

# Class Index

### 2.1 Class List

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

<a href="#">calculator.Ui_MainWindow</a> . . . . .	7
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## Chapter 3

# File Index

### 3.1 File List

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

[calculator.py](#) . . . . . ??

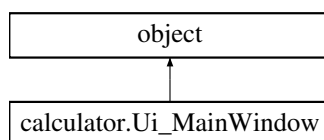


## Chapter 4

# Class Documentation

### 4.1 calculator.Ui\_MainWindow Class Reference

Inheritance diagram for calculator.Ui\_MainWindow:



#### Public Member Functions

- def [setUpUi](#) (self, MainWindow)
- def [displayWrite](#) (self, input)
- def [displayClear](#) (self)
- def [displayDeleteLast](#) (self)
- def [evaluate](#) (self)
- def [keyPressEvent](#) (self, e)
- def [retranslateUi](#) (self, MainWindow)

#### Public Attributes

- [centralwidget](#)
- [verticalLayout](#)
- [gridLayout](#)
- [label](#)
- [push\\_ob](#)
- [push\\_cb](#)
- [push\\_factorial](#)
- [push\\_clearall](#)
- [push\\_backspace](#)
- [push\\_n7](#)
- [push\\_n8](#)
- [push\\_n9](#)
- [push\\_mul](#)

- [push\\_pow](#)
- [push\\_n4](#)
- [push\\_n5](#)
- [push\\_n6](#)
- [push\\_div](#)
- [push\\_nthrt](#)
- [push\\_n1](#)
- [push\\_n2](#)
- [push\\_n3](#)
- [push\\_plus](#)
- [push\\_pi](#)
- [push\\_n0](#)
- [push\\_comma](#)
- [push\\_logarithm](#)
- [push\\_minus](#)
- [push\\_eq](#)
- [error](#)

## Static Public Attributes

- bool [error](#) = False

### 4.1.1 Detailed Description

Definition at line [13](#) of file [calculator.py](#).

### 4.1.2 Member Function Documentation

#### 4.1.2.1 displayClear()

```
def calculator.Ui_MainWindow.displayClear (  
    self )
```

Definition at line [387](#) of file [calculator.py](#).

#### 4.1.2.2 displayDeleteLast()

```
def calculator.Ui_MainWindow.displayDeleteLast (  
    self )
```

Definition at line [390](#) of file [calculator.py](#).

#### 4.1.2.3 displayWrite()

```
def calculator.Ui_MainWindow.displayWrite (
    self,
    input )
```

Definition at line 380 of file [calculator.py](#).

#### 4.1.2.4 evaluate()

```
def calculator.Ui_MainWindow.evaluate (
    self )
```

Definition at line 413 of file [calculator.py](#).

#### 4.1.2.5 keyPressEvent()

```
def calculator.Ui_MainWindow.keyPressEvent (
    self,
    e )
```

Definition at line 421 of file [calculator.py](#).

#### 4.1.2.6 retranslateUi()

```
def calculator.Ui_MainWindow.retranslateUi (
    self,
    MainWindow )
```

Definition at line 435 of file [calculator.py](#).

#### 4.1.2.7 setupUi()

```
def calculator.Ui_MainWindow.setupUi (
    self,
    MainWindow )
```

Definition at line 17 of file [calculator.py](#).

### 4.1.3 Member Data Documentation

#### 4.1.3.1 centralwidget

`calculator.Ui_MainWindow.centralwidget`

Definition at line 34 of file [calculator.py](#).

#### 4.1.3.2 error [1/2]

`bool calculator.Ui_MainWindow.error = False [static]`

Definition at line 15 of file [calculator.py](#).

#### 4.1.3.3 error [2/2]

`calculator.Ui_MainWindow.error`

Definition at line 381 of file [calculator.py](#).

#### 4.1.3.4 gridLayout

`calculator.Ui_MainWindow.gridLayout`

Definition at line 48 of file [calculator.py](#).

#### 4.1.3.5 label

`calculator.Ui_MainWindow.label`

Definition at line 53 of file [calculator.py](#).

#### 4.1.3.6 push\_backspace

`calculator.Ui_MainWindow.push_backspace`

Definition at line 115 of file [calculator.py](#).

#### 4.1.3.7 push\_cb

`calculator.Ui_MainWindow.push_cb`

Definition at line 82 of file [calculator.py](#).

#### 4.1.3.8 push\_clearall

`calculator.Ui_MainWindow.push_clearall`

Definition at line 104 of file [calculator.py](#).

#### 4.1.3.9 push\_comma

`calculator.Ui_MainWindow.push_comma`

Definition at line 302 of file [calculator.py](#).

#### 4.1.3.10 push\_div

`calculator.Ui_MainWindow.push_div`

Definition at line 214 of file [calculator.py](#).

#### 4.1.3.11 push\_eq

`calculator.Ui_MainWindow.push_eq`

Definition at line 335 of file [calculator.py](#).

#### 4.1.3.12 push\_factorial

`calculator.Ui_MainWindow.push_factorial`

Definition at line 93 of file [calculator.py](#).

#### 4.1.3.13 `push_logarithm`

`calculator.Ui_MainWindow.push_logarithm`

Definition at line [313](#) of file [calculator.py](#).

#### 4.1.3.14 `push_minus`

`calculator.Ui_MainWindow.push_minus`

Definition at line [324](#) of file [calculator.py](#).

#### 4.1.3.15 `push_mul`

`calculator.Ui_MainWindow.push_mul`

Definition at line [160](#) of file [calculator.py](#).

#### 4.1.3.16 `push_n0`

`calculator.Ui_MainWindow.push_n0`

Definition at line [291](#) of file [calculator.py](#).

#### 4.1.3.17 `push_n1`

`calculator.Ui_MainWindow.push_n1`

Definition at line [236](#) of file [calculator.py](#).

#### 4.1.3.18 `push_n2`

`calculator.Ui_MainWindow.push_n2`

Definition at line [247](#) of file [calculator.py](#).



#### 4.1.3.19 push\_n3

`calculator.Ui_MainWindow.push_n3`

Definition at line 258 of file [calculator.py](#).

#### 4.1.3.20 push\_n4

`calculator.Ui_MainWindow.push_n4`

Definition at line 181 of file [calculator.py](#).

#### 4.1.3.21 push\_n5

`calculator.Ui_MainWindow.push_n5`

Definition at line 192 of file [calculator.py](#).

#### 4.1.3.22 push\_n6

`calculator.Ui_MainWindow.push_n6`

Definition at line 203 of file [calculator.py](#).

#### 4.1.3.23 push\_n7

`calculator.Ui_MainWindow.push_n7`

Definition at line 127 of file [calculator.py](#).

#### 4.1.3.24 push\_n8

`calculator.Ui_MainWindow.push_n8`

Definition at line 138 of file [calculator.py](#).

#### 4.1.3.25 `push_n9`

`calculator.Ui_MainWindow.push_n9`

Definition at line 149 of file [calculator.py](#).

#### 4.1.3.26 `push_nthrt`

`calculator.Ui_MainWindow.push_nthrt`

Definition at line 225 of file [calculator.py](#).

#### 4.1.3.27 `push_ob`

`calculator.Ui_MainWindow.push_ob`

Definition at line 71 of file [calculator.py](#).

#### 4.1.3.28 `push_pi`

`calculator.Ui_MainWindow.push_pi`

Definition at line 280 of file [calculator.py](#).

#### 4.1.3.29 `push_plus`

`calculator.Ui_MainWindow.push_plus`

Definition at line 269 of file [calculator.py](#).

#### 4.1.3.30 `push_pow`

`calculator.Ui_MainWindow.push_pow`

Definition at line 170 of file [calculator.py](#).

#### 4.1.3.31 `verticalLayout`

`calculator.Ui_MainWindow.verticalLayout`

Definition at line 46 of file [calculator.py](#).

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

- [calculator.py](#)

## Chapter 5

# File Documentation

### 5.1 calculator.py

```
00001 # Form implementation generated from reading ui file 'gui.ui'
00002 #
00003 # Created by: PyQt6 UI code generator 6.2.3
00004 #
00005 # WARNING: Any manual changes made to this file will be lost when pyuic6 is
00006 # run again. Do not edit this file unless you know what you are doing.
00007
00008
00009 from PyQt6 import QtCore, QtWidgets
00010 from PyQt6.QtCore import Qt
00011 from mathlib.calc_exp import calc_output
00012
00013 class Ui_MainWindow(object):
00014
00015     error = False
00016
00017     def setupUi(self, MainWindow):
00018         MainWindow.setObjectName("MainWindow")
00019         MainWindow.setEnabled(True)
00020         MainWindow.resize(400, 400)
00021         sizePolicy = QtWidgets.QSizePolicy(QtWidgets.QSizePolicy.Policy.Preferred,
QtWidgets.QSizePolicy.Policy.Preferred)
00022         sizePolicy.setHorizontalStretch(1)
00023         sizePolicy.setVerticalStretch(0)
00024         sizePolicy.setHeightForWidth(MainWindow.sizePolicy().hasHeightForWidth())
00025         MainWindow.setSizePolicy(sizePolicy)
00026         MainWindow.setMinimumSize(QtCore.QSize(400, 400))
00027         MainWindow.setAutoFillBackground(False)
00028         MainWindow.setStyleSheet("font: 400 18pt \"Monospace\";\n"
00029 "background-color: rgb(73, 71, 105);\n"
00030 "\n"
00031 "")
00032         MainWindow.keyPressEvent = self.keyPressEvent
00033         MainWindow.setFocusPolicy(Qt.FocusPolicy.StrongFocus)
00034         self.centralwidget = QtWidgets.QWidget(MainWindow)
00035         self.centralwidget.setEnabled(True)
00036         sizePolicy = QtWidgets.QSizePolicy(QtWidgets.QSizePolicy.Policy.MinimumExpanding,
QtWidgets.QSizePolicy.Policy.MinimumExpanding)
00037         sizePolicy.setHorizontalStretch(8)
00038         sizePolicy.setVerticalStretch(8)
00039         sizePolicy.setHeightForWidth(self.centralwidget.sizePolicy().hasHeightForWidth())
00040         self.centralwidget.setSizePolicy(sizePolicy)
00041         self.centralwidget.setStyleSheet("background-color:rgb(86, 85, 109);\n"
00042 "margin: 3%;\n"
00043 "color:white;\n"
00044 "")
00045         self.centralwidget.setObjectName("centralwidget")
00046         self.verticalLayout = QtWidgets.QVBoxLayout(self.centralwidget)
00047         self.verticalLayout.setObjectName("verticalLayout")
00048         self.gridLayout = QtWidgets.QGridLayout()
00049         self.gridLayout.setContentsMargins(0, -1, -1, -1)
00050         self.gridLayout.setSpacing(0)
00051         self.gridLayout.setObjectName("gridLayout")
00052
00053         self.label = QtWidgets.QLabel(self.centralwidget)
00054         sizePolicy = QtWidgets.QSizePolicy(QtWidgets.QSizePolicy.Policy.Preferred,
QtWidgets.QSizePolicy.Policy.Preferred)
00055         sizePolicy.setHorizontalStretch(0)
```

```

00056         sizePolicy.setVerticalStretch(13)
00057         sizePolicy.setHeightForWidth(self.label.sizePolicy().hasHeightForWidth())
00058         self.label.setSizePolicy(sizePolicy)
00059         self.label.setStyleSheet("background-color: rgb(255, 255, 255);\n"
00060 "color:rgb(0,0,0);\n"
00061 "padding: 10%;\n"
00062 "font-size:26px;")
00063         self.label.setText("")
00064         self.label.setScaledContents(False)
00065
00066         self.label.setAlignment(QtCore.Qt.AlignmentFlag.AlignRight|QtCore.Qt.AlignmentFlag.AlignTrailing|QtCore.Qt.AlignmentFlag.AlignRight)
00067         self.label.setWordWrap(False)
00068         self.label.setIndent(10)
00069         self.label.setObjectName("label")
00070         self.gridLayout.addWidget(self.label, 0, 0, 1, 5)
00071
00072         self.push_ob = QtWidgets.QPushButton(self.centralwidget)
00073         sizePolicy = QtWidgets.QSizePolicy(QtWidgets.QSizePolicy.Policy.Minimum,
00074 QtWidgets.QSizePolicy.Policy.Preferred)
00075         sizePolicy.setHorizontalStretch(0)
00076         sizePolicy.setVerticalStretch(10)
00077         sizePolicy.setHeightForWidth(self.push_ob.sizePolicy().hasHeightForWidth())
00078         self.push_ob.setSizePolicy(sizePolicy)
00079         self.push_ob.setAutoFillBackground(False)
00080         self.push_ob.setStyleSheet("background-color: rgb(94, 92, 100);")
00081         self.push_ob.setObjectName("push_ob")
00082         self.gridLayout.addWidget(self.push_ob, 1, 0, 1, 1)
00083
00084         self.push_cb = QtWidgets.QPushButton(self.centralwidget)
00085         sizePolicy = QtWidgets.QSizePolicy(QtWidgets.QSizePolicy.Policy.Minimum,
00086 QtWidgets.QSizePolicy.Policy.Preferred)
00087         sizePolicy.setHorizontalStretch(0)
00088         sizePolicy.setVerticalStretch(10)
00089         sizePolicy.setHeightForWidth(self.push_cb.sizePolicy().hasHeightForWidth())
00090         self.push_cb.setSizePolicy(sizePolicy)
00091         self.push_cb.setAutoFillBackground(False)
00092         self.push_cb.setStyleSheet("background-color: rgb(94, 92, 100);")
00093         self.push_cb.setObjectName("push_cb")
00094         self.gridLayout.addWidget(self.push_cb, 1, 1, 1, 1)
00095
00096         self.push_factorial = QtWidgets.QPushButton(self.centralwidget)
00097         sizePolicy = QtWidgets.QSizePolicy(QtWidgets.QSizePolicy.Policy.Minimum,
00098 QtWidgets.QSizePolicy.Policy.Preferred)
00099         sizePolicy.setHorizontalStretch(0)
00100         sizePolicy.setVerticalStretch(10)
00101         sizePolicy.setHeightForWidth(self.push_factorial.sizePolicy().hasHeightForWidth())
00102         self.push_factorial.setSizePolicy(sizePolicy)
00103         self.push_factorial.setAutoFillBackground(False)
00104         self.push_factorial.setStyleSheet("background-color: rgb(94, 92, 100);")
00105         self.push_factorial.setObjectName("push_factorial")
00106         self.gridLayout.addWidget(self.push_factorial, 1, 2, 1, 1)
00107
00108         self.push_clearall = QtWidgets.QPushButton(self.centralwidget)
00109         sizePolicy = QtWidgets.QSizePolicy(QtWidgets.QSizePolicy.Policy.Minimum,
00110 QtWidgets.QSizePolicy.Policy.Preferred)
00111         sizePolicy.setHorizontalStretch(0)
00112         sizePolicy.setVerticalStretch(10)
00113         sizePolicy.setHeightForWidth(self.push_clearall.sizePolicy().hasHeightForWidth())
00114         self.push_clearall.setSizePolicy(sizePolicy)
00115         self.push_clearall.setAutoFillBackground(False)
00116         self.push_clearall.setStyleSheet("background-color: rgb(94, 92, 100);")
00117         self.push_clearall.setObjectName("push_clearall")
00118         self.gridLayout.addWidget(self.push_clearall, 1, 3, 1, 1)
00119
00120         self.push_backspace = QtWidgets.QPushButton(self.centralwidget)
00121         sizePolicy = QtWidgets.QSizePolicy(QtWidgets.QSizePolicy.Policy.Minimum,
00122 QtWidgets.QSizePolicy.Policy.Preferred)
00123         sizePolicy.setHorizontalStretch(0)
00124         sizePolicy.setVerticalStretch(10)
00125         sizePolicy.setHeightForWidth(self.push_backspace.sizePolicy().hasHeightForWidth())
00126         self.push_backspace.setSizePolicy(sizePolicy)
00127         self.push_backspace.setAutoFillBackground(False)
00128         self.push_backspace.setStyleSheet("background-color: rgb(94, 92, 100);\n"
00129 "font-size: 30px;")
00130         self.push_backspace.setObjectName("push_backspace")
00131         self.gridLayout.addWidget(self.push_backspace, 1, 4, 1, 1)
00132
00133         self.push_n7 = QtWidgets.QPushButton(self.centralwidget)
00134         sizePolicy = QtWidgets.QSizePolicy(QtWidgets.QSizePolicy.Policy.Minimum,
00135 QtWidgets.QSizePolicy.Policy.Preferred)
00136         sizePolicy.setHorizontalStretch(0)
00137         sizePolicy.setVerticalStretch(10)
00138         sizePolicy.setHeightForWidth(self.push_n7.sizePolicy().hasHeightForWidth())
00139         self.push_n7.setSizePolicy(sizePolicy)
00140         self.push_n7.setAutoFillBackground(False)
00141         self.push_n7.setStyleSheet("")
00142         self.push_n7.setObjectName("push_n7")

```

```

00136         self.gridLayout.addWidget(self.push_n7, 2, 0, 1, 1)
00137
00138         self.push_n8 = QtWidgets.QPushButton(self.centralwidget)
00139         sizePolicy = QtWidgets.QSizePolicy(QtWidgets.QSizePolicy.Policy.Minimum,
QtWidgets.QSizePolicy.Policy.Preferred)
00140         sizePolicy.setHorizontalStretch(0)
00141         sizePolicy.setVerticalStretch(10)
00142         sizePolicy.setHeightForWidth(self.push_n8.sizePolicy().hasHeightForWidth())
00143         self.push_n8.setSizePolicy(sizePolicy)
00144         self.push_n8.setAutoFillBackground(False)
00145         self.push_n8.setStyleSheet("")
00146         self.push_n8.setObjectName("push_n8")
00147         self.gridLayout.addWidget(self.push_n8, 2, 1, 1, 1)
00148
00149         self.push_n9 = QtWidgets.QPushButton(self.centralwidget)
00150         sizePolicy = QtWidgets.QSizePolicy(QtWidgets.QSizePolicy.Policy.Minimum,
QtWidgets.QSizePolicy.Policy.Preferred)
00151         sizePolicy.setHorizontalStretch(0)
00152         sizePolicy.setVerticalStretch(10)
00153         sizePolicy.setHeightForWidth(self.push_n9.sizePolicy().hasHeightForWidth())
00154         self.push_n9.setSizePolicy(sizePolicy)
00155         self.push_n9.setAutoFillBackground(False)
00156         self.push_n9.setStyleSheet("")
00157         self.push_n9.setObjectName("push_n9")
00158         self.gridLayout.addWidget(self.push_n9, 2, 2, 1, 1)
00159
00160         self.push_mul = QtWidgets.QPushButton(self.centralwidget)
00161         sizePolicy = QtWidgets.QSizePolicy(QtWidgets.QSizePolicy.Policy.Minimum,
QtWidgets.QSizePolicy.Policy.Preferred)
00162         sizePolicy.setHorizontalStretch(0)
00163         sizePolicy.setVerticalStretch(10)
00164         sizePolicy.setHeightForWidth(self.push_mul.sizePolicy().hasHeightForWidth())
00165         self.push_mul.setSizePolicy(sizePolicy)
00166         self.push_mul.setAutoFillBackground(False)
00167         self.push_mul.setStyleSheet("background-color: rgb(119, 118, 123);")
00168         self.push_mul.setObjectName("push_mul")
00169         self.gridLayout.addWidget(self.push_mul, 2, 3, 1, 1)
00170         self.push_pow = QtWidgets.QPushButton(self.centralwidget)
00171         sizePolicy = QtWidgets.QSizePolicy(QtWidgets.QSizePolicy.Policy.Minimum,
QtWidgets.QSizePolicy.Policy.Preferred)
00172         sizePolicy.setHorizontalStretch(0)
00173         sizePolicy.setVerticalStretch(10)
00174         sizePolicy.setHeightForWidth(self.push_pow.sizePolicy().hasHeightForWidth())
00175         self.push_pow.setSizePolicy(sizePolicy)
00176         self.push_pow.setAutoFillBackground(False)
00177         self.push_pow.setStyleSheet("background-color: rgb(119, 118, 123);")
00178         self.push_pow.setObjectName("push_pow")
00179         self.gridLayout.addWidget(self.push_pow, 2, 4, 1, 1)
00180
00181         self.push_n4 = QtWidgets.QPushButton(self.centralwidget)
00182         sizePolicy = QtWidgets.QSizePolicy(QtWidgets.QSizePolicy.Policy.Minimum,
QtWidgets.QSizePolicy.Policy.Preferred)
00183         sizePolicy.setHorizontalStretch(0)
00184         sizePolicy.setVerticalStretch(10)
00185         sizePolicy.setHeightForWidth(self.push_n4.sizePolicy().hasHeightForWidth())
00186         self.push_n4.setSizePolicy(sizePolicy)
00187         self.push_n4.setAutoFillBackground(False)
00188         self.push_n4.setStyleSheet("")
00189         self.push_n4.setObjectName("push_n4")
00190         self.gridLayout.addWidget(self.push_n4, 3, 0, 1, 1)
00191
00192         self.push_n5 = QtWidgets.QPushButton(self.centralwidget)
00193         sizePolicy = QtWidgets.QSizePolicy(QtWidgets.QSizePolicy.Policy.Minimum,
QtWidgets.QSizePolicy.Policy.Preferred)
00194         sizePolicy.setHorizontalStretch(0)
00195         sizePolicy.setVerticalStretch(10)
00196         sizePolicy.setHeightForWidth(self.push_n5.sizePolicy().hasHeightForWidth())
00197         self.push_n5.setSizePolicy(sizePolicy)
00198         self.push_n5.setAutoFillBackground(False)
00199         self.push_n5.setStyleSheet("")
00200         self.push_n5.setObjectName("push_n5")
00201         self.gridLayout.addWidget(self.push_n5, 3, 1, 1, 1)
00202
00203         self.push_n6 = QtWidgets.QPushButton(self.centralwidget)
00204         sizePolicy = QtWidgets.QSizePolicy(QtWidgets.QSizePolicy.Policy.Minimum,
QtWidgets.QSizePolicy.Policy.Preferred)
00205         sizePolicy.setHorizontalStretch(0)
00206         sizePolicy.setVerticalStretch(10)
00207         sizePolicy.setHeightForWidth(self.push_n6.sizePolicy().hasHeightForWidth())
00208         self.push_n6.setSizePolicy(sizePolicy)
00209         self.push_n6.setAutoFillBackground(False)
00210         self.push_n6.setStyleSheet("")
00211         self.push_n6.setObjectName("push_n6")
00212         self.gridLayout.addWidget(self.push_n6, 3, 2, 1, 1)
00213
00214         self.push_div = QtWidgets.QPushButton(self.centralwidget)
00215         sizePolicy = QtWidgets.QSizePolicy(QtWidgets.QSizePolicy.Policy.Minimum,

```

```

        QtWidgets.QSizePolicy.Policy.Preferred)
00216         sizePolicy.setHorizontalStretch(0)
00217         sizePolicy.setVerticalStretch(10)
00218         sizePolicy.setHeightForWidth(self.push_div.sizePolicy().hasHeightForWidth())
00219         self.push_div.setSizePolicy(sizePolicy)
00220         self.push_div.setAutoFillBackground(False)
00221         self.push_div.setStyleSheet("background-color: rgb(119, 118, 123);")
00222         self.push_div.setObjectName("push_div")
00223         self.gridLayout.addWidget(self.push_div, 3, 3, 1, 1)
00224
00225         self.push_nthrt = QtWidgets.QPushButton(self.centralwidget)
00226         sizePolicy = QtWidgets.QSizePolicy(QtWidgets.QSizePolicy.Policy.Minimum,
        QtWidgets.QSizePolicy.Policy.Preferred)
00227         sizePolicy.setHorizontalStretch(0)
00228         sizePolicy.setVerticalStretch(10)
00229         sizePolicy.setHeightForWidth(self.push_nthrt.sizePolicy().hasHeightForWidth())
00230         self.push_nthrt.setSizePolicy(sizePolicy)
00231         self.push_nthrt.setAutoFillBackground(False)
00232         self.push_nthrt.setStyleSheet("background-color: rgb(119, 118, 123);")
00233         self.push_nthrt.setObjectName("push_nthrt")
00234         self.gridLayout.addWidget(self.push_nthrt, 3, 4, 1, 1)
00235
00236         self.push_n1 = QtWidgets.QPushButton(self.centralwidget)
00237         sizePolicy = QtWidgets.QSizePolicy(QtWidgets.QSizePolicy.Policy.Minimum,
        QtWidgets.QSizePolicy.Policy.Preferred)
00238         sizePolicy.setHorizontalStretch(0)
00239         sizePolicy.setVerticalStretch(10)
00240         sizePolicy.setHeightForWidth(self.push_n1.sizePolicy().hasHeightForWidth())
00241         self.push_n1.setSizePolicy(sizePolicy)
00242         self.push_n1.setAutoFillBackground(False)
00243         self.push_n1.setStyleSheet("")
00244         self.push_n1.setObjectName("push_n1")
00245         self.gridLayout.addWidget(self.push_n1, 4, 0, 1, 1)
00246
00247         self.push_n2 = QtWidgets.QPushButton(self.centralwidget)
00248         sizePolicy = QtWidgets.QSizePolicy(QtWidgets.QSizePolicy.Policy.Minimum,
        QtWidgets.QSizePolicy.Policy.Preferred)
00249         sizePolicy.setHorizontalStretch(0)
00250         sizePolicy.setVerticalStretch(10)
00251         sizePolicy.setHeightForWidth(self.push_n2.sizePolicy().hasHeightForWidth())
00252         self.push_n2.setSizePolicy(sizePolicy)
00253         self.push_n2.setAutoFillBackground(False)
00254         self.push_n2.setStyleSheet("")
00255         self.push_n2.setObjectName("push_n2")
00256         self.gridLayout.addWidget(self.push_n2, 4, 1, 1, 1)
00257
00258         self.push_n3 = QtWidgets.QPushButton(self.centralwidget)
00259         sizePolicy = QtWidgets.QSizePolicy(QtWidgets.QSizePolicy.Policy.Minimum,
        QtWidgets.QSizePolicy.Policy.Preferred)
00260         sizePolicy.setHorizontalStretch(0)
00261         sizePolicy.setVerticalStretch(10)
00262         sizePolicy.setHeightForWidth(self.push_n3.sizePolicy().hasHeightForWidth())
00263         self.push_n3.setSizePolicy(sizePolicy)
00264         self.push_n3.setAutoFillBackground(False)
00265         self.push_n3.setStyleSheet("")
00266         self.push_n3.setObjectName("push_n3")
00267         self.gridLayout.addWidget(self.push_n3, 4, 2, 1, 1)
00268
00269         self.push_plus = QtWidgets.QPushButton(self.centralwidget)
00270         sizePolicy = QtWidgets.QSizePolicy(QtWidgets.QSizePolicy.Policy.Minimum,
        QtWidgets.QSizePolicy.Policy.Preferred)
00271         sizePolicy.setHorizontalStretch(0)
00272         sizePolicy.setVerticalStretch(10)
00273         sizePolicy.setHeightForWidth(self.push_plus.sizePolicy().hasHeightForWidth())
00274         self.push_plus.setSizePolicy(sizePolicy)
00275         self.push_plus.setAutoFillBackground(False)
00276         self.push_plus.setStyleSheet("background-color: rgb(119, 118, 123);")
00277         self.push_plus.setObjectName("push_plus")
00278         self.gridLayout.addWidget(self.push_plus, 4, 3, 1, 1)
00279
00280         self.push_pi = QtWidgets.QPushButton(self.centralwidget)
00281         sizePolicy = QtWidgets.QSizePolicy(QtWidgets.QSizePolicy.Policy.Minimum,
        QtWidgets.QSizePolicy.Policy.Preferred)
00282         sizePolicy.setHorizontalStretch(0)
00283         sizePolicy.setVerticalStretch(10)
00284         sizePolicy.setHeightForWidth(self.push_pi.sizePolicy().hasHeightForWidth())
00285         self.push_pi.setSizePolicy(sizePolicy)
00286         self.push_pi.setAutoFillBackground(False)
00287         self.push_pi.setStyleSheet("background-color: rgb(119, 118, 123);")
00288         self.push_pi.setObjectName("push_pi")
00289         self.gridLayout.addWidget(self.push_pi, 4, 4, 1, 1)
00290
00291         self.push_n0 = QtWidgets.QPushButton(self.centralwidget)
00292         sizePolicy = QtWidgets.QSizePolicy(QtWidgets.QSizePolicy.Policy.Minimum,
        QtWidgets.QSizePolicy.Policy.Preferred)
00293         sizePolicy.setHorizontalStretch(0)
00294         sizePolicy.setVerticalStretch(10)

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00295         sizePolicy.setHeightForWidth(self.push_n0.sizePolicy().hasHeightForWidth())
00296         self.push_n0.setSizePolicy(sizePolicy)
00297         self.push_n0.setAutoFillBackground(False)
00298         self.push_n0.setStyleSheet("")
00299         self.push_n0.setObjectName("push_n0")
00300         self.gridLayout.addWidget(self.push_n0, 5, 0, 1, 1)
00301
00302         self.push_comma = QtWidgets.QPushButton(self.centralwidget)
00303         sizePolicy = QtWidgets.QSizePolicy(QtWidgets.QSizePolicy.Policy.Minimum,
QtWidgets.QSizePolicy.Policy.Preferred)
00304         sizePolicy.setHorizontalStretch(0)
00305         sizePolicy.setVerticalStretch(10)
00306         sizePolicy.setHeightForWidth(self.push_comma.sizePolicy().hasHeightForWidth())
00307         self.push_comma.setSizePolicy(sizePolicy)
00308         self.push_comma.setAutoFillBackground(False)
00309         self.push_comma.setStyleSheet("")
00310         self.push_comma.setObjectName("push_comma")
00311         self.gridLayout.addWidget(self.push_comma, 5, 1, 1, 1)
00312
00313         self.push_logarithm = QtWidgets.QPushButton(self.centralwidget)
00314         sizePolicy = QtWidgets.QSizePolicy(QtWidgets.QSizePolicy.Policy.Minimum,
QtWidgets.QSizePolicy.Policy.Preferred)
00315         sizePolicy.setHorizontalStretch(0)
00316         sizePolicy.setVerticalStretch(10)
00317         sizePolicy.setHeightForWidth(self.push_logarithm.sizePolicy().hasHeightForWidth())
00318         self.push_logarithm.setSizePolicy(sizePolicy)
00319         self.push_logarithm.setAutoFillBackground(False)
00320         self.push_logarithm.setStyleSheet("")
00321         self.push_logarithm.setObjectName("push_logarithm")
00322         self.gridLayout.addWidget(self.push_logarithm, 5, 2, 1, 1)
00323
00324         self.push_minus = QtWidgets.QPushButton(self.centralwidget)
00325         sizePolicy = QtWidgets.QSizePolicy(QtWidgets.QSizePolicy.Policy.Minimum,
QtWidgets.QSizePolicy.Policy.Preferred)
00326         sizePolicy.setHorizontalStretch(0)
00327         sizePolicy.setVerticalStretch(10)
00328         sizePolicy.setHeightForWidth(self.push_minus.sizePolicy().hasHeightForWidth())
00329         self.push_minus.setSizePolicy(sizePolicy)
00330         self.push_minus.setAutoFillBackground(False)
00331         self.push_minus.setStyleSheet("background-color: rgb(119, 118, 123);")
00332         self.push_minus.setObjectName("push_minus")
00333         self.gridLayout.addWidget(self.push_minus, 5, 3, 1, 1)
00334
00335         self.push_eq = QtWidgets.QPushButton(self.centralwidget)
00336         sizePolicy = QtWidgets.QSizePolicy(QtWidgets.QSizePolicy.Policy.Minimum,
QtWidgets.QSizePolicy.Policy.Preferred)
00337         sizePolicy.setHorizontalStretch(0)
00338         sizePolicy.setVerticalStretch(10)
00339         sizePolicy.setHeightForWidth(self.push_eq.sizePolicy().hasHeightForWidth())
00340         self.push_eq.setSizePolicy(sizePolicy)
00341         self.push_eq.setAutoFillBackground(False)
00342         self.push_eq.setStyleSheet("background-color: rgb(229, 165, 10);")
00343         self.push_eq.setObjectName("push_eq")
00344         self.gridLayout.addWidget(self.push_eq, 5, 4, 1, 1)
00345
00346         self.verticalLayout.addLayout(self.gridLayout)
00347         MainWindow.setCentralWidget(self.centralwidget)
00348
00349         self.retranslateUi(MainWindow)
00350         QtCore.QMetaObject.connectSlotsByName(MainWindow)
00351
00352         self.push_n1.clicked.connect(lambda: self.displayWrite("1"))
00353         self.push_n2.clicked.connect(lambda: self.displayWrite("2"))
00354         self.push_n3.clicked.connect(lambda: self.displayWrite("3"))
00355         self.push_n4.clicked.connect(lambda: self.displayWrite("4"))
00356         self.push_n5.clicked.connect(lambda: self.displayWrite("5"))
00357         self.push_n6.clicked.connect(lambda: self.displayWrite("6"))
00358         self.push_n7.clicked.connect(lambda: self.displayWrite("7"))
00359         self.push_n8.clicked.connect(lambda: self.displayWrite("8"))
00360         self.push_n9.clicked.connect(lambda: self.displayWrite("9"))
00361         self.push_n0.clicked.connect(lambda: self.displayWrite("0"))
00362
00363         self.push_plus.clicked.connect(lambda: self.displayWrite("+"))
00364         self.push_minus.clicked.connect(lambda: self.displayWrite("-"))
00365         self.push_mul.clicked.connect(lambda: self.displayWrite("*"))
00366         self.push_div.clicked.connect(lambda: self.displayWrite("/"))
00367         self.push_comma.clicked.connect(lambda: self.displayWrite(", "))
00368         self.push_ob.clicked.connect(lambda: self.displayWrite("("))
00369         self.push_cb.clicked.connect(lambda: self.displayWrite(")"))
00370         self.push_logarithm.clicked.connect(lambda: self.displayWrite("log"))
00371         self.push_nthrt.clicked.connect(lambda: self.displayWrite("nrt"))
00372         self.push_pow.clicked.connect(lambda: self.displayWrite("^"))
00373         self.push_factorial.clicked.connect(lambda: self.displayWrite("!"))
00374         self.push_pi.clicked.connect(lambda: self.displayWrite("PI"))
00375
00376         self.push_eq.clicked.connect(self.evaluate)
00377         self.push_backspace.clicked.connect(self.displayDeleteLast)

```

```

00378         self.push_clearall.clicked.connect(self.displayClear)
00379
00380     def displayWrite(self, input):
00381         if (self.errorerror == True):
00382             self.errorerror = False
00383             self.label.setText("")
00384             text=self.label.text()
00385             self.label.setText(text+input)
00386
00387     def displayClear(self):
00388         self.label.setText("")
00389
00390     def displayDeleteLast(self):
00391         text=self.label.text()
00392
00393         if (self.errorerror == True):
00394             self.errorerror = False
00395             self.label.setText("")
00396
00397         elif text != "":
00398
00399             if text[-1] == 'g':
00400                 self.label.setText(text[:-3])
00401             elif text[-1] == 'I':
00402                 self.label.setText(text[:-2])
00403             elif len(text) > 1:
00404                 if text[-2] == '^':
00405                     self.label.setText(text[:-2])
00406                 elif text[-1] == '(' and text[-2] == 't':
00407                     self.label.setText(text[:-4])
00408                 else:
00409                     self.label.setText(text[:-1])
00410             else:
00411                 self.label.setText(text[:-1])
00412
00413     def evaluate(self):
00414         retValue = str(calc_output(self.label.text()))
00415         if retValue == "False":
00416             self.label.setText("Špatně zadaný výraz!")
00417             self.errorerror = True
00418         else:
00419             self.label.setText(retValue)
00420
00421     def keyPressEvent(self, e):
00422         if e.key() >=48 and e.key() <=57:
00423             self.displayWrite(str(e.key()-48))
00424         elif e.key() == Qt.Key.Key_Backspace:
00425             self.displayDeleteLast()
00426         elif e.key() == Qt.Key.Key_Return or e.key() == Qt.Key.Key_Enter:
00427             self.evaluate()
00428         elif (e.key() >= 40 and e.key() <= 45) or e.key() == 47 or e.key() == 33:
00429             self.displayWrite(chr(e.key()))
00430
00431
00432     # def keyPressEvent(self, e):
00433     #
00434
00435     def retranslateUi(self, MainWindow):
00436         _translate = QtCore.QCoreApplication.translate
00437         MainWindow.setWindowTitle(_translate("MainWindow", "Kalkulačka"))
00438         self.push_ob.setText(_translate("MainWindow", "("))
00439         self.push_cb.setText(_translate("MainWindow", ")"))
00440         self.push_factorial.setText(_translate("MainWindow", "!"))
00441         self.push_clearall.setText(_translate("MainWindow", "CA"))
00442         self.push_backspace.setText(_translate("MainWindow", ""))
00443         self.push_n7.setText(_translate("MainWindow", "7"))
00444         self.push_n8.setText(_translate("MainWindow", "8"))
00445         self.push_n9.setText(_translate("MainWindow", "9"))
00446         self.push_mul.setText(_translate("MainWindow", "*"))
00447         self.push_pow.setText(_translate("MainWindow", "x"))
00448         self.push_n4.setText(_translate("MainWindow", "4"))
00449         self.push_n5.setText(_translate("MainWindow", "5"))
00450         self.push_n6.setText(_translate("MainWindow", "6"))
00451         self.push_div.setText(_translate("MainWindow", "÷"))
00452         self.push_nthrt.setText(_translate("MainWindow", "x"))
00453         self.push_n1.setText(_translate("MainWindow", "1"))
00454         self.push_n2.setText(_translate("MainWindow", "2"))
00455         self.push_n3.setText(_translate("MainWindow", "3"))
00456         self.push_plus.setText(_translate("MainWindow", "+"))
00457         self.push_pi.setText(_translate("MainWindow", ""))
00458         self.push_n0.setText(_translate("MainWindow", "0"))
00459         self.push_comma.setText(_translate("MainWindow", ","))
00460         self.push_logarithm.setText(_translate("MainWindow", "LOG"))
00461         self.push_minus.setText(_translate("MainWindow", "-"))
00462         self.push_eq.setText(_translate("MainWindow", "="))
00463
00464

```



```
00465 if __name__ == "__main__":
00466     import sys
00467     app = QtWidgets.QApplication(sys.argv)
00468     MainWindow = QtWidgets.QMainWindow()
00469     ui = Ui_MainWindow()
00470     ui.setupUi(MainWindow)
00471     MainWindow.show()
00472     sys.exit(app.exec())
```



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