

Python进阶第九次作业



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1, 复习书本第十五章的内容以及本次课程的编程项目。

2, Python练习（提交）

按要求完成以下Python编程内容

基础题要求：

编写一个GUI的工具，GUI功能如下：

- 1.GUI的外观设计可以自由设计，尽量美观；
- 2.可以进行两个数值的加法和减法计算。

附加题要求：

对上述作业题目进行升级，GUI工具可以满足常规的科学计算器的功能。

建议，可以观察实物的科学计算器，尽可能模仿科学计算器进行设计。

提示本次作业，基础题和附加题二选其一即可。

——作业要求

```
import wx
import math
pi = math.pi
e = math.e

class MyFrame(wx.Frame):
    def __init__(LH0, parent):
        wx.Frame.__init__(LH0, parent, id=100, title='不太聪明的科学计算器', size=(305, 400))
        panel = wx.Panel(LH0)
        LH0.entry = wx.TextCtrl(panel, id=15, pos=(20, 10), size=(245, 28),
style=wx.TE_RIGHT)

        LH0.btn_clear = wx.Button(parent=panel, id=10, label='C', pos=(20, 50), size=(45, 45))
        LH0.btn_divide = wx.Button(parent=panel, id=11, label='÷', pos=(70, 50),
size=(45, 45))
        LH0.btn_multiply = wx.Button(parent=panel, id=12, label='×', pos=(120, 50),
size=(45, 45))
        LH0.btn_backspace = wx.Button(parent=panel, id=13, label='←', pos=(170, 50),
size=(45, 45))
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LH0.btn_sub = wx.Button(parent=panel, id=14, label='-', pos=(170, 100), size=(45, 45))
LH0.btn_add = wx.Button(parent=panel, id=15, label='+', pos=(170, 150), size=(45, 45))
LH0.btn_point = wx.Button(parent=panel, id=16, label='.', pos=(120, 250), size=(45, 45))
LH0.btn_equal = wx.Button(parent=panel, id=17, label='=', pos=(170, 200), size=(45, 95))
LH0.btn_zero = wx.Button(parent=panel, id=0, label='0', pos=(70, 250), size=(45, 45))
LH0.btn_seven = wx.Button(parent=panel, id=7, label='7', pos=(20, 100), size=(45, 45))
LH0.btn_eight = wx.Button(parent=panel, id=8, label='8', pos=(70, 100), size=(45, 45))
LH0.btn_nine = wx.Button(parent=panel, id=9, label='9', pos=(120, 100), size=(45, 45))
LH0.btn_six = wx.Button(parent=panel, id=6, label='6', pos=(120, 150), size=(45, 45))
LH0.btn_five = wx.Button(parent=panel, id=5, label='5', pos=(70, 150), size=(45, 45))
LH0.btn_four = wx.Button(parent=panel, id=4, label='4', pos=(20, 150), size=(45, 45))
LH0.btn_three = wx.Button(parent=panel, id=3, label='3', pos=(120, 200), size=(45, 45))
LH0.btn_two = wx.Button(parent=panel, id=2, label='2', pos=(70, 200), size=(45, 45))
LH0.btn_one = wx.Button(parent=panel, id=1, label='1', pos=(20, 200), size=(45, 45))
LH0.btn_pi = wx.Button(parent=panel, id=18, label='π', pos=(170, 300), size=(45, 45))
LH0.btn_square_root = wx.Button(parent=panel, id=19, label='√', pos=(20, 300), size=(45, 45))
LH0.btn_euler_number = wx.Button(parent=panel, id=20, label='e', pos=(20, 250), size=(45, 45))
LH0.btn_sin = wx.Button(parent=panel, id=21, label='sin', pos=(220, 50), size=(45, 45))
LH0.btn_cos = wx.Button(parent=panel, id=22, label='cos', pos=(220, 100), size=(45, 45))
LH0.btn_tan = wx.Button(parent=panel, id=23, label='tan', pos=(220, 150), size=(45, 45))
LH0.btn_left_bracket = wx.Button(parent=panel, id=24, label='(', pos=(70, 300), size=(45, 45))
LH0.btn_right_bracket = wx.Button(parent=panel, id=25, label=')', pos=(120,
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300), size=(45, 45))
    LH0.btn_ln = wx.Button(parent=panel, id=26, label='ln', pos=(220, 250), size=
(45, 45))
    LH0.btn_log = wx.Button(parent=panel, id=27, label='log', pos=(220, 200),
size=(45, 45))
    LH0.btn_lg = wx.Button(parent=panel, id=28, label='lg', pos=(220, 300), size=
(45, 45))

    LH0.btn_one.Bind(wx.EVT_BUTTON, LH0.On_Btn_one, LH0.btn_one)
    LH0.btn_two.Bind(wx.EVT_BUTTON, LH0.On_Btn_two, LH0.btn_two)
    LH0.btn_three.Bind(wx.EVT_BUTTON, LH0.On_Btn_three, LH0.btn_three)
    LH0.btn_four.Bind(wx.EVT_BUTTON, LH0.On_Btn_four, LH0.btn_four)
    LH0.btn_five.Bind(wx.EVT_BUTTON, LH0.On_Btn_five, LH0.btn_five)
    LH0.btn_six.Bind(wx.EVT_BUTTON, LH0.On_Btn_six, LH0.btn_six)
    LH0.btn_seven.Bind(wx.EVT_BUTTON, LH0.On_Btn_seven, LH0.btn_seven)
    LH0.btn_eight.Bind(wx.EVT_BUTTON, LH0.On_Btn_eight, LH0.btn_eight)
    LH0.btn_nine.Bind(wx.EVT_BUTTON, LH0.On_Btn_nine, LH0.btn_nine)
    LH0.btn_zero.Bind(wx.EVT_BUTTON, LH0.On_Btn_zero, LH0.btn_zero)
    LH0.btn_divide.Bind(wx.EVT_BUTTON, LH0.On_Btn_divide, LH0.btn_divide)
    LH0.btn_clear.Bind(wx.EVT_BUTTON, LH0.On_Btn_clear, LH0.btn_clear)
    LH0.btn_multiply.Bind(wx.EVT_BUTTON, LH0.On_Btn_multiply, LH0.btn_multiply)
    LH0.btn_backspace.Bind(wx.EVT_BUTTON, LH0.On_Btn_backspace,
LH0.btn_backspace)
    LH0.btn_sub.Bind(wx.EVT_BUTTON, LH0.On_Btn_sub, LH0.btn_sub)
    LH0.btn_add.Bind(wx.EVT_BUTTON, LH0.On_Btn_add, LH0.btn_add)
    LH0.btn_equal.Bind(wx.EVT_BUTTON, LH0.On_Btn_equal, LH0.btn_equal)
    LH0.btn_point.Bind(wx.EVT_BUTTON, LH0.On_Btn_point, LH0.btn_point)
    LH0.btn_pi.Bind(wx.EVT_BUTTON, LH0.On_Btn_pi, LH0.btn_pi)
    LH0.btn_square_root.Bind(wx.EVT_BUTTON, LH0.On_Btn_square_root,
LH0.btn_square_root)
    LH0.btn_euler_number.Bind(wx.EVT_BUTTON, LH0.On_Btn_euler_number,
LH0.btn_euler_number)
    LH0.btn_sin.Bind(wx.EVT_BUTTON, LH0.On_Btn_sin, LH0.btn_sin)
    LH0.btn_cos.Bind(wx.EVT_BUTTON, LH0.On_Btn_cos, LH0.btn_cos)
    LH0.btn_tan.Bind(wx.EVT_BUTTON, LH0.On_Btn_tan, LH0.btn_tan)
    LH0.btn_left_bracket.Bind(wx.EVT_BUTTON, LH0.On_Btn_left_bracket,
LH0.btn_left_bracket)
    LH0.btn_right_bracket.Bind(wx.EVT_BUTTON, LH0.On_Btn_right_bracket,
LH0.btn_right_bracket)
    LH0.btn_ln.Bind(wx.EVT_BUTTON, LH0.On_Btn_ln, LH0.btn_ln)
    LH0.btn_log.Bind(wx.EVT_BUTTON, LH0.On_Btn_log, LH0.btn_log)
    LH0.btn_lg.Bind(wx.EVT_BUTTON, LH0.On_Btn_lg, LH0.btn_lg)

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def On_Btn_one(LH0, event):
    LH0.entry.AppendText("1")
def On_Btn_two(LH0, event):
    LH0.entry.AppendText("2")
def On_Btn_three(LH0, event):
    LH0.entry.AppendText("3")
def On_Btn_four(LH0, event):
    LH0.entry.AppendText("4")
def On_Btn_five(LH0, event):
    LH0.entry.AppendText("5")
def On_Btn_six(LH0, event):
    LH0.entry.AppendText("6")
def On_Btn_seven(LH0, event):
    LH0.entry.AppendText("7")
def On_Btn_eight(LH0, event):
    LH0.entry.AppendText("8")
def On_Btn_nine(LH0, event):
    LH0.entry.AppendText("9")
def On_Btn_zero(LH0, event):
    LH0.entry.AppendText("0")
def On_Btn_point(LH0, event):
    LH0.entry.AppendText(".")
def On_Btn_add(LH0, event):
    LH0.entry.AppendText("+")
def On_Btn_sub(LH0, event):
    LH0.entry.AppendText("-")
def On_Btn_multiply(LH0, event):
    LH0.entry.AppendText("*")
def On_Btn_divide(LH0, event):
    LH0.entry.AppendText("/")
def On_Btn_pi(LH0, event):
    LH0.entry.AppendText("*pi")
def On_Btn_square_root(LH0, event):
    LH0.entry.AppendText("**0.5")
def On_Btn_euler_number(LH0, event):
    LH0.entry.AppendText("*e")
def On_Btn_sin(LH0, event):
    LH0.entry.AppendText("math.sin(")
def On_Btn_cos(LH0, event):
    LH0.entry.AppendText("math.cos(")
def On_Btn_tan(LH0, event):
    LH0.entry.AppendText("math.tan(")
def On_Btn_left_bracket(LH0, event):
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        LH0.entry.AppendText("(")
def On_Btn_right_bracket(LH0, event):
    LH0.entry.AppendText(")")
def On_Btn_ln(LH0, event):
    LH0.entry.AppendText("math.loge(")
def On_Btn_log(LH0, event):
    LH0.entry.AppendText("math.log")
def On_Btn_lg(LH0, event):
    LH0.entry.AppendText("math.log10(")
def On_Btn_clear(LH0, event):
    LH0.entry.Clear()
def On_Btn_backspace(LH0, event):
    input_len = len(LH0.entry.GetValue())
    LH0.entry.Remove(input_len - 1, input_len)
def On_Btn_equal(LH0, event):
    try:
        pre_result = str(LH0.entry.GetValue())
        result = eval(pre_result)
        LH0.entry.SetValue(str(result))
    except:
        LH0.entry.SetValue("Error")

if __name__ == '__main__':
    app = wx.App()
    MyFrame(None).Show()
    app.MainLoop()

```