Task 1: Simple Calculator Application by Using python

Code:

```python
# Python program to create a simple GUI
# calculator using Tkinter

# import everything from tkinter module
from tkinter import *

# globally declare the expression variable
expression = ""


# Function to update expression
# in the text entry box
def press(num):
    # point out the global expression variable
    global expression

    # concatenation of string
    expression = expression + str(num)

    # update the expression by using set method
    equation.set(expression)


# Function to evaluate the final expression
def equalpress():
    # Try and except statement is used
    # for handling the errors like zero
    # division error etc.

    # Put that code inside the try block
    # which may generate the error
    try:

        global expression

        # eval function evaluate the expression
        # and str function convert the result
        # into string
        total = str(eval(expression))

        equation.set(total)

        # initialize the expression variable
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        # by empty string
        expression = ""

    # if error is generate then handle
    # by the except block
    except:

        equation.set(" error ")
        expression = ""


# Function to clear the contents
# of text entry box
def clear():
    global expression
    expression = ""
    equation.set("")


# Driver code
if __name__ == "__main__":
    # create a GUI window
    gui = Tk()

    # set the background colour of GUI window
    gui.configure(background="light green")

    # set the title of GUI window
    gui.title("Simple Calculator")

    # set the configuration of GUI window
    gui.geometry("270x150")

    # StringVar() is the variable class
    # we create an instance of this class
    equation = StringVar()

    # create the text entry box for
    # showing the expression .
    expression_field = Entry(gui, textvariable=equation)

    # grid method is used for placing
    # the widgets at respective positions
    # in table like structure .
    expression_field.grid(columnspan=4, ipadx=70)

    # create a Buttons and place at a particular
    # location inside the root window .
    # when user press the button, the command or
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# function affiliated to that button is executed .
button1 = Button(gui, text=' 1 ', fg='black', bg='red',
                 command=lambda: press(1), height=1, width=7)
button1.grid(row=2, column=0)

button2 = Button(gui, text=' 2 ', fg='black', bg='red',
                 command=lambda: press(2), height=1, width=7)
button2.grid(row=2, column=1)

button3 = Button(gui, text=' 3 ', fg='black', bg='red',
                 command=lambda: press(3), height=1, width=7)
button3.grid(row=2, column=2)

button4 = Button(gui, text=' 4 ', fg='black', bg='red',
                 command=lambda: press(4), height=1, width=7)
button4.grid(row=3, column=0)

button5 = Button(gui, text=' 5 ', fg='black', bg='red',
                 command=lambda: press(5), height=1, width=7)
button5.grid(row=3, column=1)

button6 = Button(gui, text=' 6 ', fg='black', bg='red',
                 command=lambda: press(6), height=1, width=7)
button6.grid(row=3, column=2)

button7 = Button(gui, text=' 7 ', fg='black', bg='red',
                 command=lambda: press(7), height=1, width=7)
button7.grid(row=4, column=0)

button8 = Button(gui, text=' 8 ', fg='black', bg='red',
                 command=lambda: press(8), height=1, width=7)
button8.grid(row=4, column=1)

button9 = Button(gui, text=' 9 ', fg='black', bg='red',
                 command=lambda: press(9), height=1, width=7)
button9.grid(row=4, column=2)

button0 = Button(gui, text=' 0 ', fg='black', bg='red',
                 command=lambda: press(0), height=1, width=7)
button0.grid(row=5, column=0)

plus = Button(gui, text=' + ', fg='black', bg='red',
              command=lambda: press("+"), height=1, width=7)
plus.grid(row=2, column=3)

minus = Button(gui, text=' - ', fg='black', bg='red',
               command=lambda: press("-"), height=1, width=7)
minus.grid(row=3, column=3)
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multiply = Button(gui, text=' * ', fg='black', bg='red',
                  command=lambda: press("*"), height=1, width=7)
multiply.grid(row=4, column=3)

divide = Button(gui, text=' / ', fg='black', bg='red',
                command=lambda: press("/"), height=1, width=7)
divide.grid(row=5, column=3)

equal = Button(gui, text=' = ', fg='black', bg='red',
               command=equalpress, height=1, width=7)
equal.grid(row=5, column=2)

clear = Button(gui, text='Clear', fg='black', bg='red',
               command=clear, height=1, width=7)
clear.grid(row=5, column='1')

Decimal= Button(gui, text='.', fg='black', bg='red',
                command=lambda: press('.'), height=1, width=7)
Decimal.grid(row=6, column=0)
# start the GUI
gui.mainloop()
```