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#Class: Calculator
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#There was no random number function in math so we were not able to add it

# import the library
from appJar import gui
import math


# handle button events
def press(button):
    if button == "Subtract":
        x = float(app.getEntry("First Number"))
        y = float(app.getEntry("Second Number"))
        ans = x-y
        app.setEntry("Answer",ans)
    if button == "Add":
        x = float(app.getEntry("First Number"))
        y = float(app.getEntry("Second Number"))
        ans = x+y
        app.setEntry("Answer",ans)
    if button == "Multiply":
        x = float(app.getEntry("First Number"))
        y = float(app.getEntry("Second Number"))
        ans = x * y
        app.setEntry("Answer", ans)
    if button == "Divide":
        x = float(app.getEntry("First Number"))
        y = float(app.getEntry("Second Number"))
        ans = x / y
        app.setEntry("Answer", ans)

    if button == "Clear":
        app.setEntry("First Number", "")
        app.setEntry("Second Number", "")
        app.setEntry("Answer", "")

    if button == "Exponent":
        x = float(app.getEntry("First Number"))
        y = float(app.getEntry("Second Number"))
        ans = x ** y
        app.setEntry("Answer", ans)


    if button == "Sin":
       x = float(app.getEntry("First Number"))
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        ans = math.sin(math.radians(x))
        app.setEntry("Answer", ans)

    if button == "Cosine":
        x = float(app.getEntry("First Number"))
        ans = math.cos(math.radians(x))
        app.setEntry("Answer", ans)

    if button == "Tangent":
        x = float(app.getEntry("First Number"))
        ans = math.tan(math.radians(x))
        app.setEntry("Answer", ans)
    if button == "√":
        x = float(app.getEntry("First Number"))
        ans = math.sqrt(x)
        app.setEntry("Answer", ans)

    if button == "Absolute":
        x = float(app.getEntry("First Number"))
        ans = math.fabs(x)
        app.setEntry("Answer", ans)

    if button == "Log":
        x = float(app.getEntry("First Number"))
        ans = math.log10(x)
        app.setEntry("Answer", ans)



# create a GUI variable called app
app = gui("Calculator", "800x800")
app.setBg("White")
app.setFont(12)

# add & configure widgets - widgets get a name, to help referencing them later
app.addLabel("title", "Caclulator")
app.setLabelBg("title", "white")
app.setLabelFg("title", "black")

app.addLabelEntry("First Number")
app.addLabelEntry("Second Number")
app.addLabelEntry("Answer")

# link the buttons to the function called press
app.addButtons(["Add", "Subtract", "Multiply", "Divide", "Exponent", "Sin", "Cosine",
"Tangent","√","Absolute","Log","Clear"], press)
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app.setFocus("First Number")

# start the GUI
app.go()
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