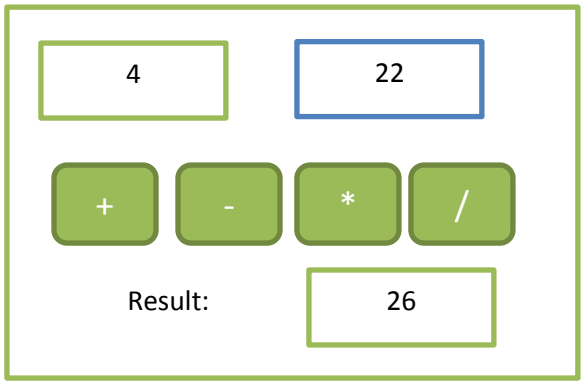
Homework4 CSCE206

1. Develop a simple calculator using Tkinter package with the following requirement
   (check the guitest.py example code for reference)
   It allows users to input 2 number
   It has 4 buttons corresponding to +, -,*,/
   When the user input 2 number, and click one of the button, the result should be shown on the screen



2. Plot a figure for the following function

   F(x)= exp(x^2)* sin(x) for x in [-3.14, 3.14]

3. Work on the following problem. Name it as P3.py
   You should be able to run it as python P3.py 1 2.5 5, which will generate 3 curves on the same figure. (Hint, use the hold() function to plot multiple curves on the same figure)

Plot a formula for several parameters.

Make a program that reads a set of v_0 values from the command line and plots the corresponding curves $y(t) = v_0 t - 0.5gt^2$ in the same figure (set $g = 9.81$). Let $t \in [0, 2v_0/g]$ for each curve, which implies that you need a different vector of t coordinates for each curve.

4. Define an array based vectorization function sincos(x) so that you can compute:. This function will calculate the sin(cos(x)) for each value of the input vector/array x.

```
from numpy import *
def sincos(x):
    # result=… to be finished by you
    return result
```

```
x=array([1,3,5,7,10.5])

y=sincos(x)

print y
```