Python 和 tkinter库

核心代码

def hit():

global index

global err

index = 0

err = 0

cd = e.get()

result = "左结合："

result += cd + " = " + str(exp(cd))

result += "\n右结合："

index = 0

result += cd + " = " + str(exp\_right(cd))

if index!=len(cd):

error()

if err == 0:

var.set(result)

def error():

global err

err = 1

tk.messagebox.showinfo(title='error', message='表达式有错，请重新输入')

def match(expectedToken, cd):

global index

if cd[index] == expectedToken:

index += 1

else :

error()

def exp(cd):

global index

temp = term(cd)

if index==len(cd):

return temp

while (cd[index]=='+') | (cd[index]=='-'):

if cd[index]=='+':

match('+', cd)

temp += term(cd)

elif cd[index]=='-':

match('-', cd)

temp -= term(cd)

if index==len(cd):

return temp

return temp

def term(cd):

global index

temp = factor(cd)

if index==len(cd):

return temp

while (cd[index]=='\*') | (cd[index]=='/'):

if cd[index]=='\*':

match('\*', cd)

temp \*= factor(cd)

elif cd[index]=='/':

match('/', cd)

temp /= factor(cd)

if index==len(cd):

return temp

return temp

def factor(cd):

global index

temp = 0

if index==len(cd):

error()

elif cd[index]=='(':

match('(', cd)

temp = exp(cd)

match(')', cd)

else :

if cd[index].isdigit():

while cd[index].isdigit():

temp = temp \* 10 + int(cd[index])

index += 1

if index==len(cd):

return temp

else :

error()

return temp

def exp\_right(cd):

global index

temp = term\_right(cd)

if index==len(cd):

return temp

if cd[index]=='+':

match('+', cd)

temp += exp\_right(cd)

elif cd[index]=='-':

match('-', cd)

temp -= exp\_right(cd)

return temp

def term\_right(cd):

global index

temp = factor(cd)

if index==len(cd):

return temp

if cd[index]=='\*':

match('\*', cd)

temp \*= term\_right(cd)

elif cd[index]=='/':

match('/', cd)

temp /= term\_right(cd)

return temp