UNIVERSIDAD NACIONAL AUTONÓMA DE MÉXICO

FACULTAD DE INGENIERIA

Estructuras de Datos y Algoritmos I

Actividad #3 “Calculadora”

Alumno: García Gallegos Luis

Grupo:12 **SEMESTRE 2021-2**

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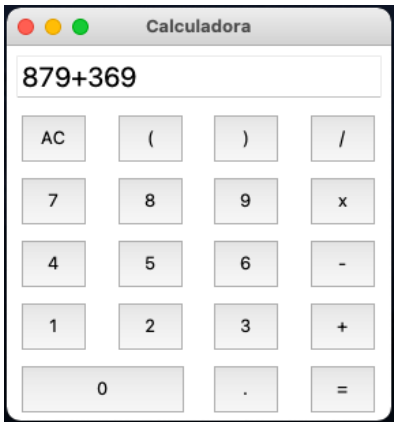
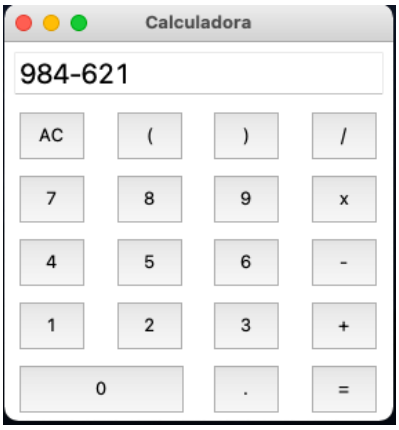
Calculadora (python)

```python
from tkinter import *

ventana = Tk()
ventana.title("Calculadora")

i = 0

#Entrada
e_texto = Entry(ventana, font= ("Calibri 20"))
e_texto.grid(row = 0,column = 0, columnspan = 4, padx = 5, pady = 5)

#Funciones
def click_boton(valor):
    global i
    e_texto.insert(i, valor)
    i += 1

def borrar():
    e_texto.delete(0, END)
    i = 0

def residuo_operacion():
    ecuacion = e_texto.get()
    resultado = eval(ecuacion)
    e_texto.delete(0, END)
    e_texto.insert(0, resultado)
    i = 0

#Botones
boton1 = Button(ventana, text = "1", width = 5, height = 2, command = lambda: click_boton(1))
boton2 = Button(ventana, text = "2", width = 5, height = 2, command = lambda: click_boton(2))
boton3 = Button(ventana, text = "3", width = 5, height = 2, command = lambda: click_boton(3))
boton4 = Button(ventana, text = "4", width = 5, height = 2, command = lambda: click_boton(4))
boton5 = Button(ventana, text = "5", width = 5, height = 2, command = lambda: click_boton(5))
boton6 = Button(ventana, text = "6", width = 5, height = 2, command = lambda: click_boton(6))
boton7 = Button(ventana, text = "7", width = 5, height = 2, command = lambda: click_boton(7))
boton8 = Button(ventana, text = "8", width = 5, height = 2, command = lambda: click_boton(8))
boton9 = Button(ventana, text = "9", width = 5, height = 2, command = lambda: click_boton(9))
boton0 = Button(ventana, text = "0", width = 13, height = 2, command = lambda: click_boton(0))

boton_borrar = Button(ventana, text = "AC", width = 5, height = 2, command = lambda: borrar())
boton_parentesis1 = Button(ventana, text = "(", width = 5, height = 2, command = lambda: click_boton("("))
boton_parentesis2 = Button(ventana, text = ")", width = 5, height = 2, command = lambda: click_boton(")"))
boton_punto = Button(ventana, text = ".", width = 5, height = 2, command = lambda: click_boton("."))

boton_div = Button(ventana, text = "/", width = 5, height = 2, command = lambda: click_boton("/"))
boton_mult = Button(ventana, text = "x", width = 5, height = 2, command = lambda: click_boton("*"))
boton_sum = Button(ventana, text = "+", width = 5, height = 2, command = lambda: click_boton("+"))
boton_rest = Button(ventana, text = "-", width = 5, height = 2, command = lambda: click_boton("-"))
boton_igual = Button(ventana, text = "=", width = 5, height = 2, command = lambda: residuo_operacion())

#Agregar
boton_borrar.grid(row = 1, column = 0, padx = 5, pady = 5)
boton_parentesis1.grid(row = 1, column = 1, padx = 5, pady = 5)
boton_parentesis2.grid(row = 1, column = 2, padx = 5, pady = 5)
boton_div.grid(row = 1, column = 3, padx = 5, pady = 5)

boton7.grid(row = 2, column = 0, padx = 5, pady = 5)
boton8.grid(row = 2, column = 1, padx = 5, pady = 5)
boton9.grid(row = 2, column = 2, padx = 5, pady = 5)
boton_mult.grid(row = 2, column = 3, padx = 5, pady = 5)

boton4.grid(row = 3, column = 0, padx = 5, pady = 5)
boton5.grid(row = 3, column = 1, padx = 5, pady = 5)
boton6.grid(row = 3, column = 2, padx = 5, pady = 5)
boton_rest.grid(row = 3, column = 3, padx = 5, pady = 5)

boton1.grid(row = 4, column = 0, padx = 5, pady = 5)
boton2.grid(row = 4, column = 1, padx = 5, pady = 5)
boton3.grid(row = 4, column = 2, padx = 5, pady = 5)
boton_sum.grid(row = 4, column = 3, padx = 5, pady = 5)

boton0.grid(row = 5, column = 0, columnspan = 2, padx = 5, pady = 5)
boton_punto.grid(row = 5, column = 2, padx = 5, pady = 5)
boton_igual.grid(row = 5, column = 3, padx = 5, pady = 5)


ventana.mainloop()
```

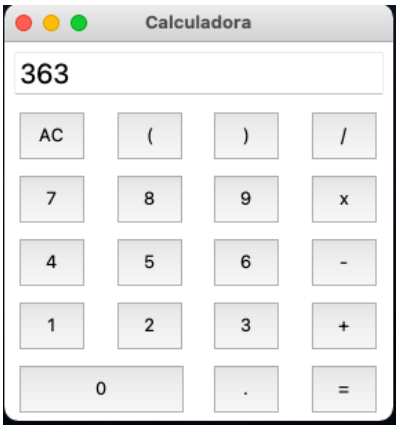

Calculadora
879+369
AC ( ) /
7 8 9 x
4 5 6 -
1 2 3 +
0 . =

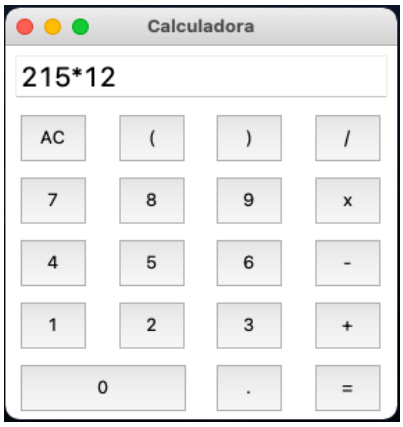
=


Calculadora
1248
AC ( ) /
7 8 9 x
4 5 6 -
1 2 3 +
0 . =

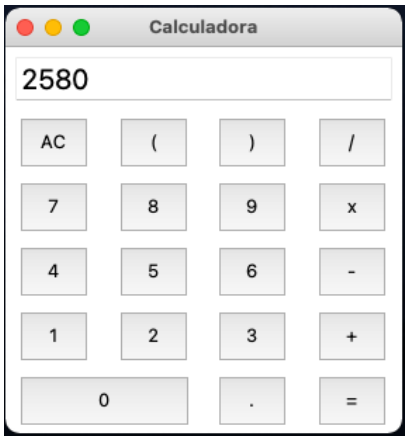

Calculadora
984-621
AC ( ) /
7 8 9 x
4 5 6 -
1 2 3 +
0 . =

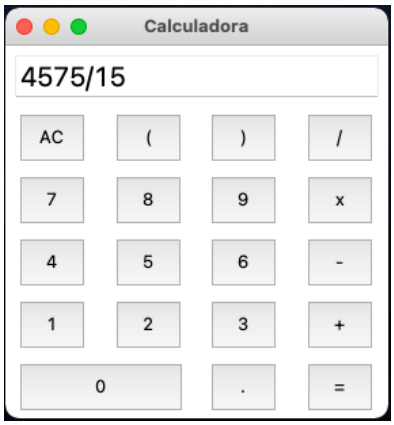
=


Calculadora
363
AC ( ) /
7 8 9 x
4 5 6 -
1 2 3 +
0 . =

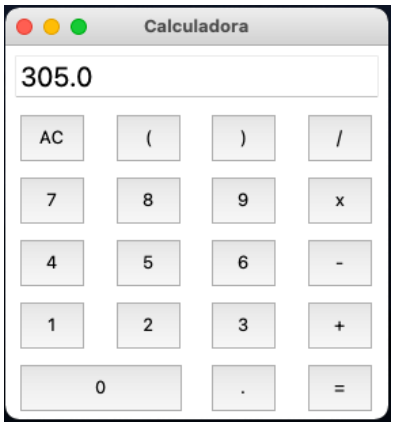

Calculadora
215*12
AC ( ) /
7 8 9 x
4 5 6 -
1 2 3 +
0 . =

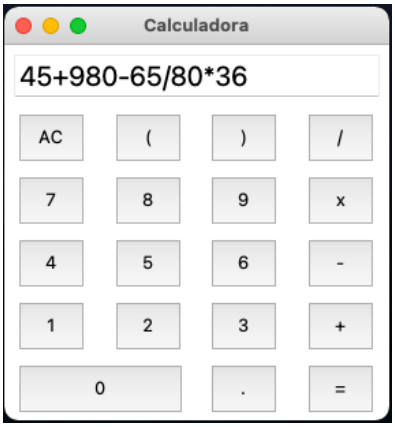
=


Calculadora
2580
AC ( ) /
7 8 9 x
4 5 6 -
1 2 3 +
0 . =

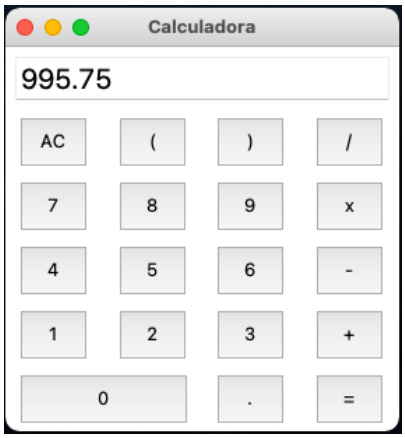

Calculadora
4575/15
AC ( ) /
7 8 9 x
4 5 6 -
1 2 3 +
0 . =

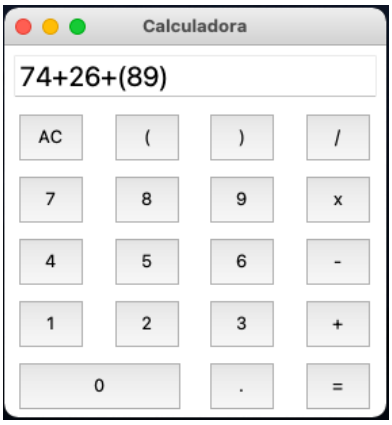
=


Calculadora
305.0
AC ( ) /
7 8 9 x
4 5 6 -
1 2 3 +
0 . =

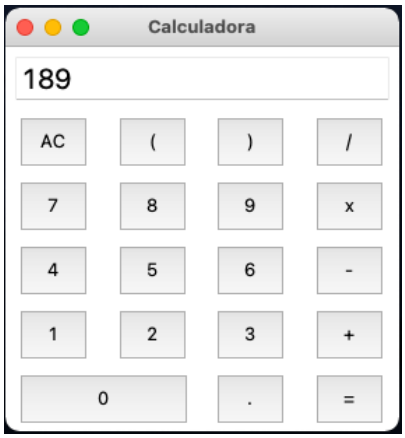

Calculadora
45+980-65/80*36
AC ( ) /
7 8 9 x
4 5 6 -
1 2 3 +
0 . =

=


Calculadora
995.75
AC ( ) /
7 8 9 x
4 5 6 -
1 2 3 +
0 . =

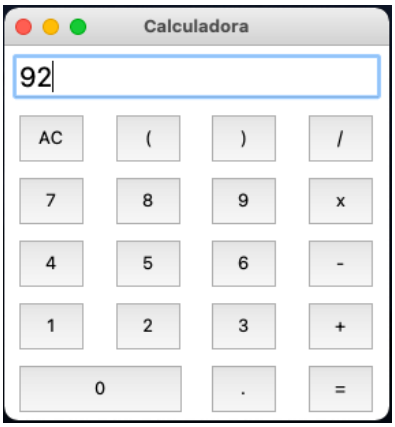

Calculadora
74+26+(89)
AC ( ) /
7 8 9 x
4 5 6 -
1 2 3 +
0 . =

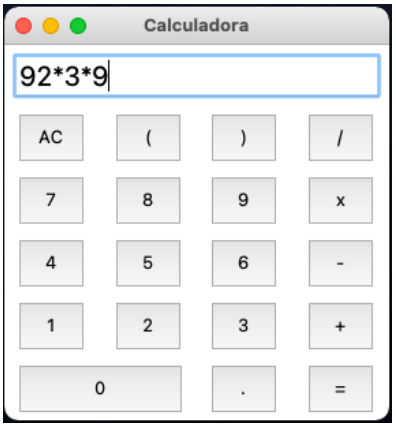
=


Calculadora
189
AC ( ) /
7 8 9 x
4 5 6 -
1 2 3 +
0 . =

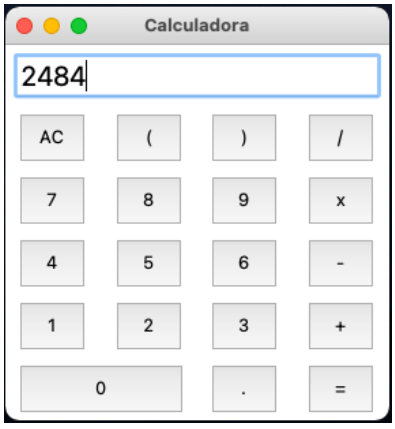

Calculadora
189-65-32
AC ( ) /
7 8 9 x
4 5 6 -
1 2 3 +
0 . =

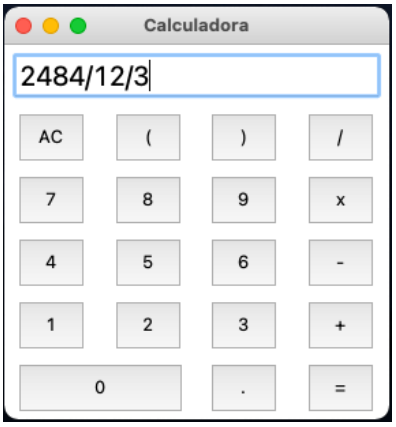
=


Calculadora
92
AC ( ) /
7 8 9 x
4 5 6 -
1 2 3 +
0 . =


Calculadora
92*3*9
AC ( ) /
7 8 9 x
4 5 6 -
1 2 3 +
0 . =

=


Calculadora
2484
AC ( ) /
7 8 9 x
4 5 6 -
1 2 3 +
0 . =

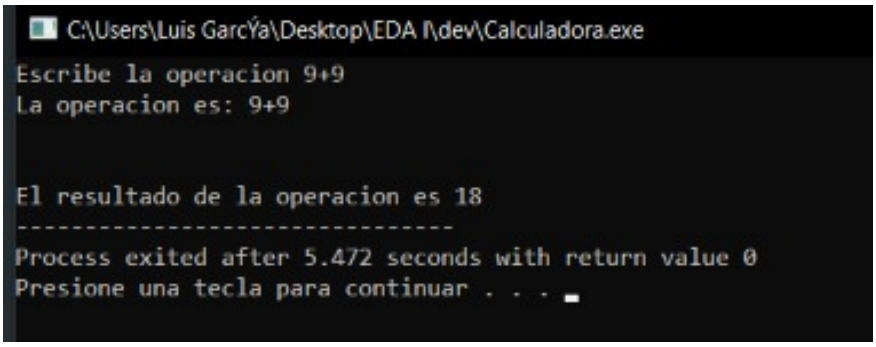

Calculadora
2484/12/3
AC ( ) /
7 8 9 x
4 5 6 -
1 2 3 +
0 . =

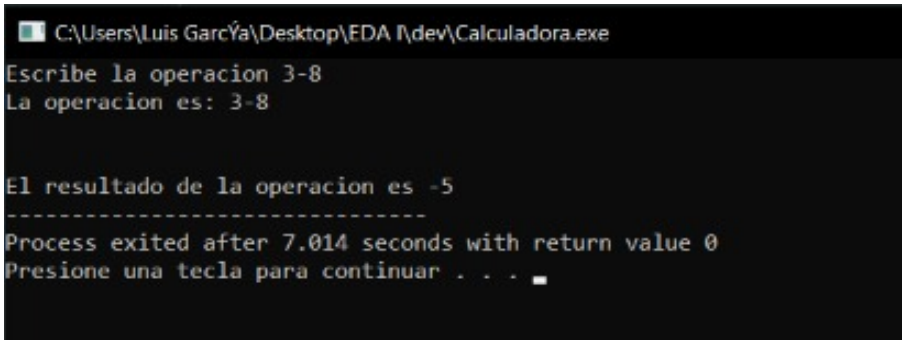
=

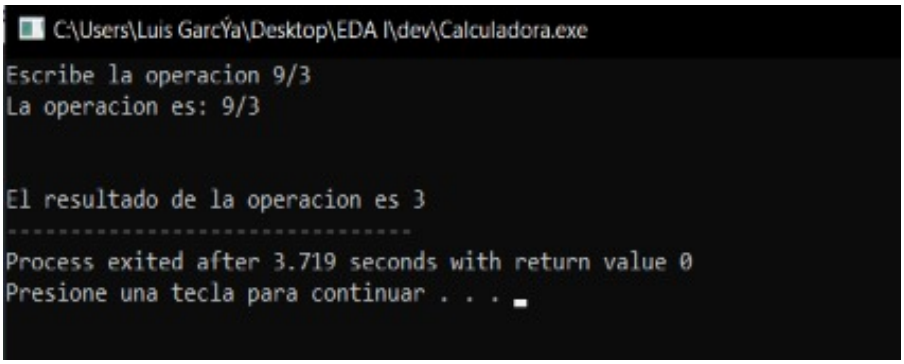

Calculadora
69.0
AC ( ) /
7 8 9 x
4 5 6 -
1 2 3 +
0 . =

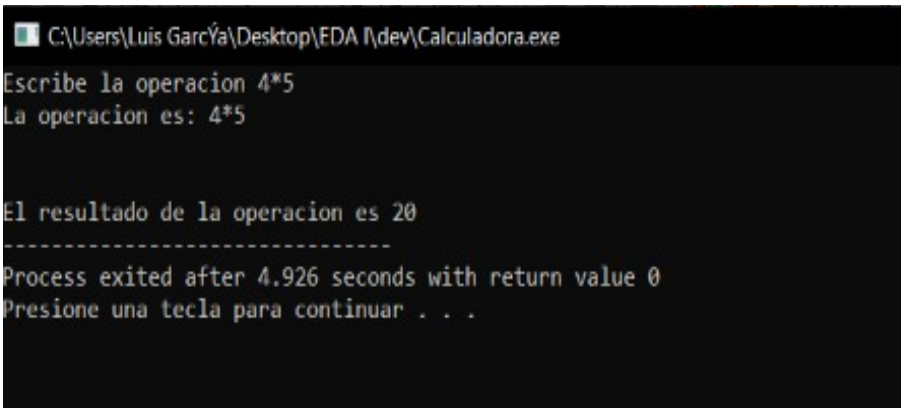
Calculadora(Lenguaje C)

```c
#include <stdio.h>
#include <stdlib.h>
#include <string.h>

int main(){
    //char opracion [TAM]
    char operacion [50];
    int i=0,res=0;
    int op1=0, op2=0;

    printf("Escribe la operacion ");
    scanf("%s", &operacion);

    printf("La operacion es: %s\n\n", operacion);
    do{
        for(i=0;i<50;i++){
            if(operacion[i]=='*'){
                op1=(int)(operacion[i-1]-'0');
                op2=(int)(operacion[i+1]-'0');
                //printf("\n%c \n%c", operacion[i-1], operacion[i+1]);
                res =op1*op2;

            }else{
                if(operacion[i]=='/'){
                    op1=(int)(operacion[i-1]-'0');
                    op2=(int)(operacion[i+1]-'0');
                    //printf("\n%c \n%c", operacion[i-1], operacion[i+1]);
                    res +=op1/op2;
                }else{
                    if(operacion[i]=='+'){
                        op1=(int)(operacion[i-1]-'0');
                        op2=(int)(operacion[i+1]-'0');
                        //printf("\n%c \n%c", operacion[i-1], operacion[i+1]);
                        res +=op1+op2;
                    }else{
                        if(operacion[i]=='-'){
                        op1=(int)(operacion[i-1]-'0');
                        op2=(int)(operacion[i+1]-'0');
                        //printf("\n%c \n%c", operacion[i-1], operacion[i+1]);
                        res +=op1-op2;
                        }
                    }

                }
            }
        }
    }while(operacion[i] == '*' || operacion[i] == '/' || operacion[i] == '+' || operacion[i] == '-');
    printf("\nEl resultado de la operacion es %d ", res);

    return 0;
}
```


C:\Users\Luis GarcÝa\Desktop\EDA I\dev\Calculadora.exe
Escribe la operacion 9+9
La operacion es: 9+9
El resultado de la operacion es 18
Process exited after 5.472 seconds with return value 0
Presione una tecla para continuar . . .


C:\Users\Luis GarcÝa\Desktop\EDA I\dev\Calculadora.exe
Escribe la operacion 3-8
La operacion es: 3-8
El resultado de la operacion es -5
Process exited after 7.014 seconds with return value 0
Presione una tecla para continuar . . .


C:\Users\Luis GarcÝa\Desktop\EDA I\dev\Calculadora.exe
Escribe la operacion 9/3
La operacion es: 9/3
El resultado de la operacion es 3
Process exited after 3.719 seconds with return value 0
Presione una tecla para continuar . . .


C:\Users\Luis GarcÝa\Desktop\EDA I\dev\Calculadora.exe
Escribe la operacion 4*5
La operacion es: 4*5
El resultado de la operacion es 20
Process exited after 4.926 seconds with return value 0
Presione una tecla para continuar . . .