***Project Topic*** *- SIMPLE CALCULATOR.*

***SUBMITTED BY :***

Name - Aman Kumar Shah

Stream – Computer Science And Engineering.

Class Roll No – 61 Year – 2nd Semester – Third

Subject – IT/PYTHON

College – St Thomas College Of Engineering And Technology.

*SYNOPSIS*

1. ***Title of the project : Simple Calculator***
2. ***Brief description of the Simple Calculator :-***

1st : Imported tkinter module

2nd : Initializing the calculator using tkinter and made the frame, design, name, and the necessary things to show in calculator.

3rd : Declared an empty variable by the name expression.

4th : Defining function to update expression in the text entry box.

In this function data entry will be there which will take data as input and then calculate it through eval function.

5th : Declared function to clear last entered expression .

6th : Declared function to clear everything and reset.

7th : Declared eval function evaluate the expression , and str function to convert the result into string.

Here inside this function the evaluation of the entered digits by the user is executed and output is shown after arithmetic functions.

8th : Declaring variable to take value of expression

9th : Created a bar for entering value. Through desired choice.

10th : Created a list of buttons and assign them to their particular place as choice

through Grid (row and column) system.

11th : End of the mainloop .

1. ***IDE used for making this project was VS CODE.***
2. ***Code for the Project Simple Calculator*** :-

from tkinter import \* # importing the tkinter module

root = Tk()

root.config(background='ivory2')

root.geometry("440x380") # setting the width and height of the gui

root.resizable(0,0)

root.wm\_iconbitmap("Pelfusion-Long-Shadow-Ios7-Calculator.ico") #importing an icon

root.title("Calculator by CSE -Aman kr shah" )

expression = "" #globally declaring an empty variable

def entry(num): # defining function to update expression in the text entry box

global expression

expression+=num # concatenation of string

value.set(expression)

def clear(): # function to clear last entered expression

global expression

expression= expression[0:len(expression)-1]

value.set(expression)

def allclear(): # function to clear everything and reset

global expression

expression = ""

value.set("")

def calculate(): # eval function evaluate the expression , and str function convert the result into string

try:

global expression

answer = eval(expression)

value.set(answer)

except:

value.set("Enter correct expression")

expression = ""

value = StringVar(value="0") # declaring variable to take value of expression

Entry(root,justify=RIGHT,textvariable=value, font="bold" , bg="ghost white").grid(row=0,

column=0, columnspan=6, ipadx=100 , ipady=10) #bar for entering value

Button(root, text="7",font="bold",bg="light blue", command=lambda:entry("7"), borderwidth=22).grid(row=1,column=0)

Button(root, text="8",font="bold",bg="light blue", command=lambda:entry("8"), borderwidth=22).grid(row=1,column=1)

Button(root, text="9",font="bold",bg="light blue", command=lambda:entry("9"), borderwidth=22).grid(row=1,column=2)

Button(root, text="/",font="bold",bg="linen" , command=lambda:entry("/"), borderwidth=22).grid(row=1,column=3)

Button(root, text="4",font="bold" ,bg="light blue", command=lambda:entry("4"), borderwidth=22).grid(row=2,column=0)

Button(root, text="5",font="bold" ,bg="light blue", command=lambda:entry("5"), borderwidth=22).grid(row=2,column=1)

Button(root, text="6",font="bold" ,bg="light blue", command=lambda:entry("6"), borderwidth=22).grid(row=2,column=2)

Button(root, text="-",font="bold" ,bg="linen", command=lambda:entry("-"), borderwidth=22).grid(row=2,column=3)

Button(root, text="1",font="bold" ,bg="light blue", command=lambda:entry("1"), borderwidth=22).grid(row=3,column=0)

Button(root, text="2",font="bold" ,bg="light blue", command=lambda:entry("2"), borderwidth=22).grid(row=3,column=1)

Button(root, text="3",font="bold" ,bg="light blue", command=lambda:entry("3"), borderwidth=22).grid(row=3,column=2)

Button(root, text="\*",font="bold" ,bg="linen", command=lambda:entry("\*"), borderwidth=22).grid(row=3,column=3)

Button(root, text="%",font="bold" ,command=lambda:

entry("%"),bg="linen" ,borderwidth=22).grid(row=4, column=0)

Button(root, text="+",font="bold" ,command=lambda:

entry("+"),bg="linen" ,borderwidth=22).grid(row=4, column=3)

Button(root, text=".",font="bold" ,command=lambda:

entry("."),bg="linen" ,borderwidth=22).grid(row=4, column=2)

Button(root, text="0",font="bold" , bg="light blue", command=lambda:

entry("0"), borderwidth=22).grid(row=4, column=1)

# "clear" button to call the clear function which will clear digit from last

Button(root, text="C", font="bold",bg="orange",command=clear, height=2,

width=8).grid(row=1, column=5)

# "allclear" button to call the allclear function which will allclear the entry widget so that the user can start clculating again

Button(root, text="AC", font="bold",bg="orange",command=allclear, height=2,

width=8).grid(row=2, column=5)

# "=" button to call the calculate button which will return and entry the calculated value

Button(root, text="=",font="bold",bg="light green", command=calculate, height=6,

width=8).grid(row=3, column=5 , rowspan=2)

root.mainloop() # .mainloop() is used when the code is ready to run

1. ***PROJECT OUTPUT :-***

