

Basic Calculator and Discount Calculator

Objective:

The objective of this code is to generate a code for creating a graphical user interface application using tkinter in Python. It includes a basic calculator to perform arithmetic calculations. The second calculator is the discount calculator to calculate the final price after the discount.

Benefits:

The benefits of the user that can easy and more accurate to compute with the calculator.

Simple interface: Easy to use interface for calculation.

Time-saving: Calculation is done within few seconds.

Toolkit for beginners: It can be used to understand the GUI toolkit for beginner level students.

Purpose: The reason for this code is that the GUI application uses the tkinter library and its code written in this markdown file.

Purpose The code is aimed to outline a tkinter-based GUI application. It allows implementing the solution that creates multiple windows or Toplevel. The user is enabled to carry out basic arithmetic operations and get a discount based on the provided data. * **Significance** The code is also valuable since it demonstrates how the GUI is programmed in Python via the tkinter library. It can be used as a basis for more complicated solutions. For developers, it can serve as the starting point for designing applications with the same idea.

Significance: This code is significant as it is used as a GUI and takes an input integer and string and displays as it is a string specifies the functionality of tkinter and the output cost is a string means it can not perform the inline addition operation on integer.

Features:

Basic calculator: includes four function – plus, minus, multiply, and divide;

Clear function. The function that allows the user to clear the field in the calculator. It clears the field and resets the value of a or b in python;

Error calculation. If user put error function withed error. In the future, it is possible to implement a function that does not receive error-alert messages;

Discount: discount . Calculates and outputs the discounted from the main price.

Code:

```
1 import tkinter as tk
2
3 def calculator():
4     calculator_root = tk.Toplevel(root)
5     calculator_root.title("Calculator")
6     calculator_root.geometry("665x725+150+250")
7     calculator_root.configure(bg="#022345")
8
9
10    equation = ""
11    def show(value):
12        nonlocal equation
13        equation += value
14        label_result.config(text=equation)
15
16    def clear():
17        nonlocal equation
18        equation = ""
19        label_result.config(text=equation)
20
21    def calculate():
22        nonlocal equation
23        result = ""
24        if equation!="":
25            try:
26                result = eval(equation)
27            except:
28                result = "Error"
29                equation = ""
30        label_result.config(text=result)
31
32    label_result = tk.Label(calculator_root, width=25, height=2,
33        text="", font=("arial", 30, "bold"), justify= tk.RIGHT)
34    label_result.pack()
35
36    # Add buttons here
37    button1=tk.Button(calculator_root, text="C", width=3,
38        height=1, font=("arial", 30, "bold"), bd=1, bg="#fa8a20",
39        fg="#00698f", command=lambda: clear())
40    button1.place(x=20, y=135)
41    button2=tk.Button(calculator_root, text="/", width=3,
42        height=1, font=("arial", 30, "bold"), bd=1, bg="#122534",
43        fg="#00698f", command=lambda: show("/"))
44    button2.place(x=200, y=135)
45    button3=tk.Button(calculator_root, text="%", width=3,
46        height=1, font=("arial", 30, "bold"), bd=1, bg="#122534",
47        fg="#00698f", command=lambda: show("%"))
48    button3.place(x=390, y=135)
49    button4=tk.Button(calculator_root, text="*", width=3,
50        height=1, font=("arial", 30, "bold"), bd=1, bg="#122534",
51        fg="#00698f", command=lambda: show("*"))
52    button4.place(x=530, y=135)
53
54    button5=tk.Button(calculator_root, text="7", width=3,
55        height=1, font=("arial", 30, "bold"), bd=1, bg="#d6e9ff",
56        fg="#00698f", command=lambda: show("7"))
57    button5.place(x=20, y=235)
58    button6=tk.Button(calculator_root, text="8", width=3,
59        height=1, font=("arial", 30, "bold"), bd=1, bg="#d6e9ff",
60        fg="#00698f", command=lambda: show("8"))
61    button6.place(x=200, y=235)
62    button7=tk.Button(calculator_root, text="9", width=3,
63        height=1, font=("arial", 30, "bold"), bd=1, bg="#d6e9ff",
64        fg="#00698f", command=lambda: show("9"))
65    button7.place(x=390, y=235)
66    button8=tk.Button(calculator_root, text=".", width=3,
67        height=1, font=("arial", 30, "bold"), bd=1, bg="#122534",
68        fg="#00698f", command=lambda: show("."))
69    button8.place(x=530, y=235)
70
71    button9=tk.Button(calculator_root, text="4", width=3,
72        height=1, font=("arial", 30, "bold"), bd=1, bg="#d6e9ff",
73        fg="#00698f", command=lambda: show("4"))
74    button9.place(x=20, y=335)
75    button0=tk.Button(calculator_root, text="5", width=3,
76        height=1, font=("arial", 30, "bold"), bd=1, bg="#d6e9ff",
77        fg="#00698f", command=lambda: show("5"))
78    button0.place(x=200, y=335)
79    button00=tk.Button(calculator_root, text="6", width=3,
80        height=1, font=("arial", 30, "bold"), bd=1, bg="#d6e9ff",
81        fg="#00698f", command=lambda: show("6"))
82    button00.place(x=390, y=335)
83    button11=tk.Button(calculator_root, text="+", width=3,
84        height=1, font=("arial", 30, "bold"), bd=1, bg="#122534",
85        fg="#00698f", command=lambda: show("+"))
86    button11.place(x=530, y=335)
87
88    button12=tk.Button(calculator_root, text="1", width=3,
89        height=1, font=("arial", 30, "bold"), bd=1, bg="#d6e9ff",
90        fg="#00698f", command=lambda: show("1"))
91
92    button13=tk.Button(calculator_root, text="2", width=3,
93        height=1, font=("arial", 30, "bold"), bd=1, bg="#d6e9ff",
94        fg="#00698f", command=lambda: show("2"))
95    button13.place(x=200, y=435)
96    button14=tk.Button(calculator_root, text="3", width=3,
97        height=1, font=("arial", 30, "bold"), bd=1, bg="#d6e9ff",
98        fg="#00698f", command=lambda: show("3"))
99    button14.place(x=390, y=435)
100    button15=tk.Button(calculator_root, text="0", width=8,
101        height=1, font=("arial", 30, "bold"), bd=1, bg="#d6e9ff",
102        fg="#00698f", command=lambda: show("0"))
103    button15.place(x=20, y=535)
104
105    button16=tk.Button(calculator_root, text="=", width=3,
106        height=1, font=("arial", 30, "bold"), bd=1, bg="#d6e9ff",
107        fg="#00698f", command=lambda: show("="))
108    button16.place(x=350, y=535)
109    button17=tk.Button(calculator_root, text="", width=3,
110        height=2, font=("arial", 30, "bold"), bd=1, bg="#505050",
111        fg="#00698f", command=lambda: calculate())
112    button17.place(x=530, y=445)
113
114    def discount_calculator():
115        calculator_root = tk.Toplevel(root)
116        calculator_root.title("Discount Calculator")
117        calculator_root.geometry("400x200+150+250")
118        calculator_root.configure(bg="#0558ac")
119
120        marked_price_label = tk.Label(calculator_root,
121            text="Marked Price:", bg="#a8c6e0")
122        marked_price_label.pack()
123        marked_price_entry = tk.Entry(calculator_root)
124        marked_price_entry.pack()
125
126        discount_label = tk.Label(calculator_root, text="Discount
127            (%)", bg="#a8c6e0")
128        discount_label.pack()
129        discount_entry = tk.Entry(calculator_root)
130        discount_entry.pack()
131
132        final_price_label = tk.Label(calculator_root, text="Final
133            Price:", bg="#a8c6e0")
134        final_price_label.pack()
135
136        def calculate_final_price():
137            marked_price = float(marked_price_entry.get())
138            discount_percentage = float(discount_entry.get())
139            discount = (discount_percentage / 100) * marked_price
140            selling_price = marked_price - discount
141            final_price_label.config(text=f"Final Price: {selling_price:.
142                2f}")
143
144        discount_label.config(text=f"Discount:
145            {discount_percentage:.2f}%")
146
147        calculate_button = tk.Button(calculator_root,
148            text="Calculate", bg="#d6e9ff",
149            command=calculate_final_price)
150        calculate_button.pack()
151
152    root = tk.Tk()
153    root.title("Main Window")
154    root.geometry("200x200")
155    root.configure(bg="#0097e8") # blue background
156
157    button2 = tk.Button(root, text="Discount Calculator",
158        command=discount_calculator, bg="#ffcc00", fg="#00698f")
159    # light orange background and blue text
160    button2.pack(pady=10)
161
162    button = tk.Button(root, text="Calculator",
163        command=calculator, bg="#33cc33", fg="#00698f") # light
164    green background and blue text
165    button.pack(pady=10)
166
167    quit_button = tk.Button(root, text="Quit", command=root.quit,
168        bg="#ff9999", fg="#00698f") # light red background and blue
169    text
170    quit_button.pack(pady=10)
171
172    root.mainloop()
```

```
1:07 PM @ G D G 60%
guiresentation.py
calculator.py* newfile1.py cell.py* root.py* new* new*
97 marked_price = float(marketed_price_entry.get())
98 discount_percentage = float(discount_entry.get())
99 discount = (discount_percentage / 100) * marked_price
100 selling_price = marketed_price - discount
101 final_price_label.config(text=f"Final Price: {selling_price:
2f}")
102 discount_label.config(text=f"Discount:
(discount_percentage:2f)%")
103
104 calculate_button = tk.Button(calculator_root,
text="Calculate", bg="#d9e9ff",
command=calculate_final_price)
105 calculate_button.pack()
106
107 root = tk.Tk()
108 root.title("Main Window")
109 root.geometry("200x200")
110 root.config(bg="#0097e8") # blue background
111
112 button2 = tk.Button(root, text="Discount Calculator",
command=discount_calculator, bg="#ffcc00", fg="#00698f")
# light orange background and blue text
113 button2.pack(pady=10)
114
115 button = tk.Button(root, text="Calculator",
command=calculator, bg="#33cc33", fg="#00698f") # light
green background and blue text
116 button.pack(pady=10)
117
118 quit_button = tk.Button(root, text="Quit", command=root.quit,
bg="#ff9999", fg="#00698f") # light red background and blue
text
119 quit_button.pack(pady=10)
120
121 root.mainloop()
122
```

Smart Calculator

Marked Price

Discount (%)

Final Price

Calculate

/

%

*

8

9

-

5

6

+

2

3

=

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PERSONAL INFORMATION

Name: Kim C. Catay
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Place of Birth: Surigao City
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Age: 20
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EDUCATIONAL BACKGROUND

Elementary: Canlanipa Central Elementary School
Brgy, Canlanipa Surigao City
Junior High School: Taft National High School
Brgy, Taft Surigao City
Senior High School: Taft National High School
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