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Year/section: 2nd year BSCS C204 Subject: 7OOP

Problem:

Finals Lab Task 4. Python GUI using TKINTER

Note: Write your code following OOP code construct, you may use the attached simpleCalc.py program as guide.

Instructions: READ AND UNDERSTAND THE PROBLEM FIRST BEFORE DOING THE ACTUAL PROGRAM.

1. Design the form below
2. Problem Statement: The cost of a long Distance call is based on the destination, the time of day the call was made, as well as the distance of the call. The rates as as follows:

DAYTIME CALLS		NIGHTTIME CALLS	
1. American Region	P 50 every 3 minutes	1. American Region	P 45 every 3 minutes
2. Asian Region	P 30 every 2 minutes	2. Asian Region	P 27 every 2 minutes
3. African Region	P 40 every 3 minutes	3. African Region	P 36 every 3 minutes
4. European Region	P 35 every 2 minutes	4. European Region	P 30 every 2 minutes

3. Make a program that will Allow the user to **Select Destination Code (between 1 – 4)** using ComboBox widget, A Time Code using radio buttons, And the Duration Of The Call in minutes and output the **TOTAL CHARGE**. – Validate user inputs by using **TRY EXCEPT block – Only numeric values are accepted.**

4. **Compute Button** should compute for the **TOTAL CHARGE**.

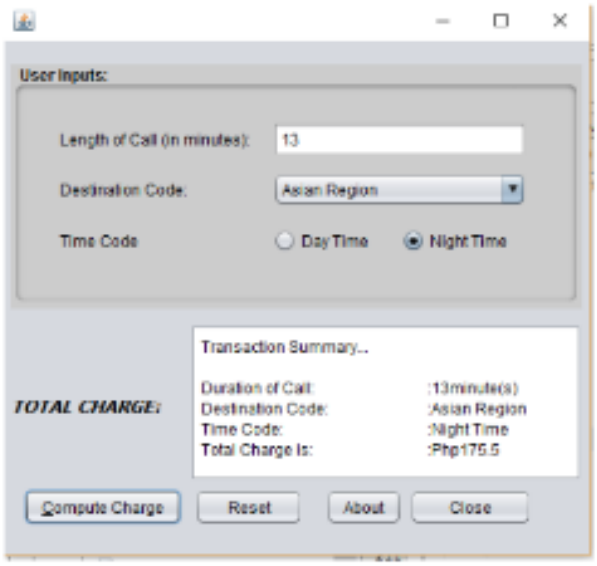
   4.1 Computations should be based on the table rates shown above. (The total charge is based on **Length of Calls**, **Destination Code** and **Time Code**)

   4.2. You may use the get () method of the comboBox to capture the selected option in your comboBox

5. **Reset Button** should clear the Radio Button Selection and the Text field entries should be cleared as well

6. **About button** should display a dialog with the message: "Hello I'm your Name"

7. See sample output below:



Rubrics: Form Design and Layout : 10 points

Program Correctness : 40 points (Reset – 5 pts., About – 5 pts. , Compute – 30 pts.)

Source code:

```
import tkinter as tk
from tkinter import ttk, messagebox

# Rate tables
DAY_RATES = {
    1: 50 / 3,
    2: 30 / 2,
    3: 40 / 3,
    4: 35 / 2
}

NIGHT_RATES = {
    1: 45 / 3,
    2: 27 / 2,
    3: 37 / 3,
    4: 30 / 2
}

REGION_NAMES = {
    1: "American Region",
    2: "Asian Region",
    3: "African Region",
    4: "European Region"
}

window = tk.Tk()
window.title("Long Distance Call Charge Calculator")
window.geometry("520x450")


tk.Label(window, text="User Inputs:", font=("Arial", 12, "bold")).pack(anchor="w", padx=20, pady=5)

frame = tk.Frame(window)
frame.pack(padx=20)

tk.Label(frame, text="Length of Call (minutes):").grid(row=0, column=0, sticky="w")
txt_minutes = tk.Entry(frame, width=10)
txt_minutes.grid(row=0, column=1)
```

```
tk.Label(frame, text="Destination:").grid(row=1, column=0, sticky="w", pady=10)
combo_dest = ttk.Combobox(
    frame,
    values=[
        "1 - American Region",
        "2 - Asian Region",
        "3 - African Region",
        "4 - European Region"
    ],
    width=22
)
combo_dest.grid(row=1, column=1)
combo_dest.current(0)

tk.Label(frame, text="Time Code:").grid(row=2, column=0, sticky="w", pady=10)

time_var = tk.StringVar(value="Day")

r1 = tk.Radiobutton(frame, text="Day Time", variable=time_var, value="Day")
r2 = tk.Radiobutton(frame, text="Night Time", variable=time_var, value="Night")

r1.grid(row=2, column=1, sticky="w")
r2.grid(row=2, column=1, sticky="e")

output = tk.Text(window, height=10, width=50, state="disabled")
output.pack(pady=10)


1 usage
def compute_charge():
    try:
        minutes = float(txt_minutes.get())
        if minutes <= 0:
            raise ValueError

    except:
        messagebox.showerror( title: "Invalid Input",  message: "Please enter a valid numeric duration in minutes.")
        return
```

```
    dest_code = int(combo_dest.get().split()[0])
    region_name = REGION_NAMES[dest_code]


    rate = DAY_RATES[dest_code] if time_var.get() == "Day" else NIGHT_RATES[dest_code]
    total_charge = minutes * rate

    output.config(state="normal")
    output.delete( index1: "1.0", tk.END)
    output.insert(tk.END,  chars: "Transaction Summary...\n\n")
    output.insert(tk.END,  chars: f"Duration of Call: {minutes:.2f} minutes\n")
    output.insert(tk.END,  chars: f"Destination: {region_name}\n")
    output.insert(tk.END,  chars: f"Time Code: {time_var.get()} Time\n")
    output.insert(tk.END,  chars: f"Total Charge is:  P{total_charge:.2f}\n")
    output.config(state="disabled")


1 usage
def reset_all():
    txt_minutes.delete( first: 0, tk.END)
    combo_dest.current(0)
    time_var.set("Day")
    output.config(state="normal")
    output.delete( index1: "1.0", tk.END)
    output.config(state="disabled")

1 usage
def about_msg():
    messagebox.showinfo( title: "About",  message: "Hello I'm your Name")


btn_frame = tk.Frame(window)
btn_frame.pack(pady=10)

tk.Button(btn_frame, text="Compute Charge", command=compute_charge, width=15).grid(row=0, column=0, padx=10)
tk.Button(btn_frame, text="Reset", command=reset_all, width=10).grid(row=0, column=1, padx=10)
tk.Button(btn_frame, text="About", command=about_msg, width=10).grid(row=0, column=2, padx=10)

window.mainloop()
```

Sample Output: