| Ex. No.: 9<br>27.03.25 | GRAPHICAL USER INTERFACE | Register Number:<br>URK24CS1189 |
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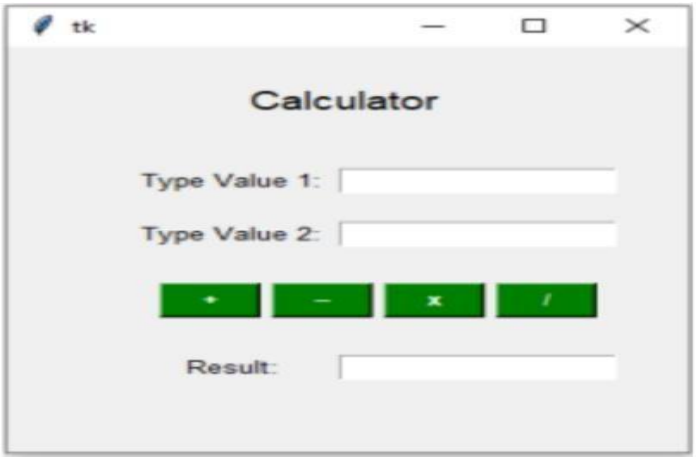
## Aim:-

To create a GUI application to design a simple Calculator and Registration form.

**1. Create a GUI application to design a simple calculator or a convertor as given below.**




**Algorithm:-**

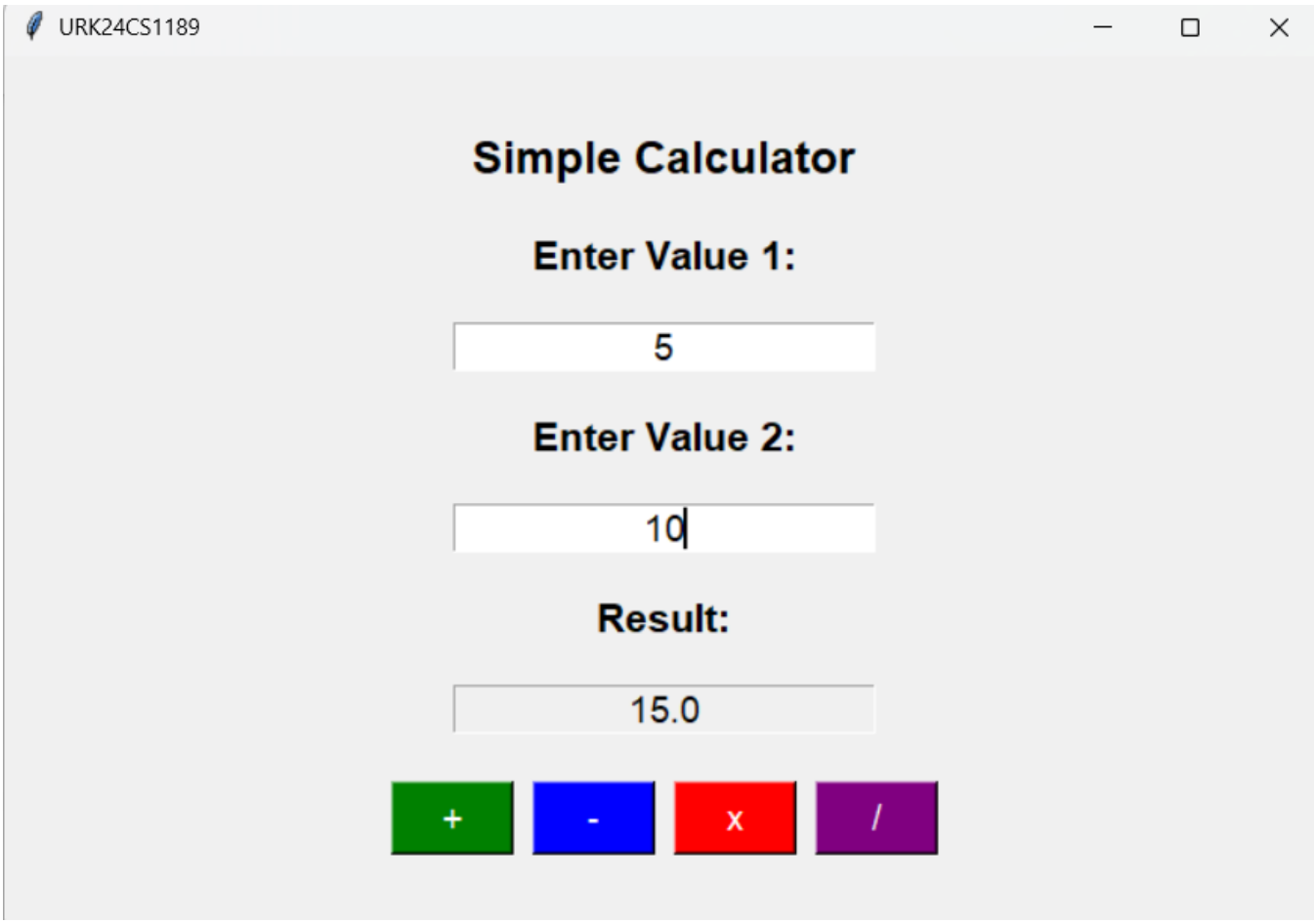
Step 1: Start.
Step 2: import the tkinter library.
Step 3: Define the function (calculate), get the input from the user and choose the correct operation to do.
Step 4: Create at tk box with title and geometry , align all the element in centre.
Step 5: Create a four label named ‘Simple Calculator’ , ‘Enter value 1:’ - Get the first value (entry 1) ,
‘Enter value 2:’ - Get the second value (entry 2) ,
‘Result:’ - To display the result of operation , all the labels place at the correct position.
Step 6: Create a four button ‘+’ , ‘-’ , ‘**X**’, ‘/’ and all place at the correct position.
Step 7: On clicking the button , it call the function for the operation and get the result.
Step 8: End.

**Program:-**

```python
#URK24CS1189
import tkinter as tk
def calculate(operation):
    try:
        num1 = float(entry1.get())
        num2 = float(entry2.get())

        if operation == "+":
            result.set(num1 + num2)
        elif operation == "-":
            result.set(num1 - num2)
        elif operation == "x":
            result.set(num1 * num2)
        elif operation == "/":
            result.set("Cannot divide by zero" if num2 == 0 else num1 / num2)
    except ValueError:
        result.set("Invalid input")
root = tk.Tk()
root.title("URK24CS1189")
root.geometry("900x600")
frame = tk.Frame(root)
frame.place(relx=0.5, rely=0.5, anchor="center")
tk.Label(frame, text="Simple Calculator", font=("Arial", 18, "bold"), anchor="center").grid(row=0, column=0, columnspan=2, pady=10)
tk.Label(frame, text="Enter Value 1:", font=("Arial", 16, "bold"), anchor="center").grid(row=1, column=0, columnspan=2, pady=10)
entry1 = tk.Entry(frame, font=("Arial", 14), justify="center")
entry1.grid(row=2, column=0, columnspan=2, pady=10)
tk.Label(frame, text="Enter Value 2:", font=("Arial", 16, "bold"), anchor="center").grid(row=3, column=0, columnspan=2, pady=10)
entry2 = tk.Entry(frame, font=("Arial", 14), justify="center")
entry2.grid(row=4, column=0, columnspan=2, pady=10)
tk.Label(frame, text="Result:", font=("Arial", 16, "bold"), anchor="center").grid(row=5, column=0, columnspan=2, pady=10)
result = tk.StringVar()
entry_result = tk.Entry(frame, textvariable=result, state="readonly", font=("Arial", 14), justify="center")
entry_result.grid(row=6, column=0, columnspan=2, pady=10)
btn_frame = tk.Frame(frame)
btn_frame.grid(row=7, column=0, columnspan=2, pady=15)
btn_add = tk.Button(btn_frame, text="+", width=5, font=("Arial", 14), command=lambda: calculate("+"), bg="green", fg="white")
btn_add.grid(row=0, column=0, padx=5)
btn_sub = tk.Button(btn_frame, text="-", width=5, font=("Arial", 14), command=lambda: calculate("-"), bg="blue", fg="white")
btn_sub.grid(row=0, column=1, padx=5)
btn_mul = tk.Button(btn_frame, text="x", width=5, font=("Arial", 14), command=lambda: calculate("x"), bg="red", fg="white")
btn_mul.grid(row=0, column=2, padx=5)
btn_div = tk.Button(btn_frame, text="/", width=5, font=("Arial", 14), command=lambda: calculate("/"), bg="purple", fg="white")
btn_div.grid(row=0, column=3, padx=5)
root.mainloop()
```

**Output:-**


URK24CS1189
Simple Calculator
Enter Value 1:
5
Enter Value 2:
10
Result:
15.0
+
-
x
/

**2. Create GUI application to design a Registration form.**


**Algorithm:-**

Step 1: Start.
Step 2: import tkinter library
Step 3: Create a tk box with title and geometry, align all the element in centre.
Step 4: Create a six label named ‘Registration Form’ , ‘Full name:’ - get the name of user , ‘Email:’ - Get the email of user , ‘Gender:’ - To choose the gender , ‘Country:’ - To choose or enter the county , ‘Programming:’ - To choose the program all the labels are place at the correct position.
Step 5: Create a two Radio Button to choose male or female for gender label and align in position.
Step 6: Create a Combo box to select your country for country label and align in position.
Step 7: Create a Check Button to choose the Java or Python for Programming label and algin in position.
Step 8: Create a Button Submit to submit the given data.
Step 9: End.

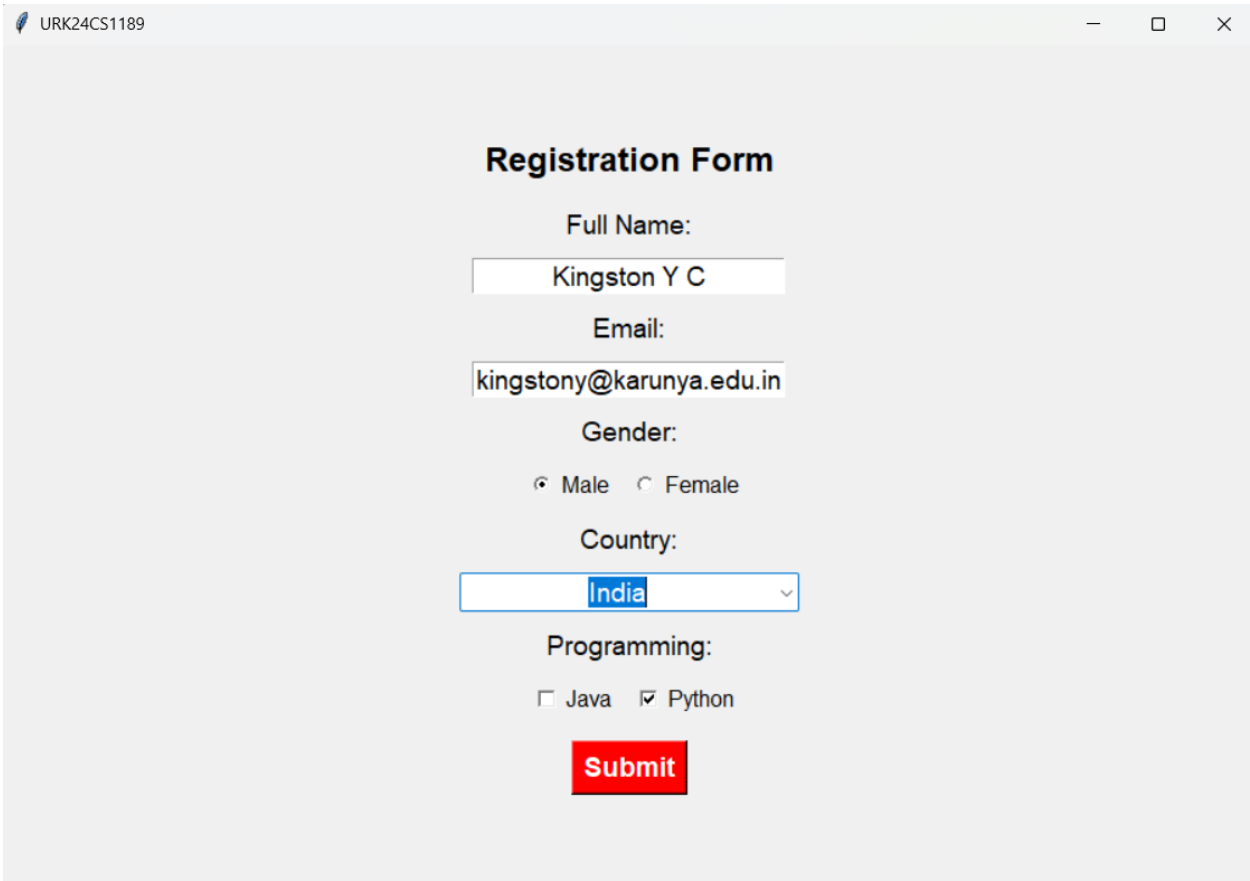
**Program:-**

```python
#URK24CS1189
import tkinter as tk
from tkinter import ttk
root = tk.Tk()
root.title("URK24CS1189")
root.geometry("900x600")
frame = tk.Frame(root)
frame.place(relx=0.5, rely=0.5, anchor="center")
tk.Label(frame, text="Registration Form", font=("Arial", 18, "bold")).grid(row=0, column=0, columnspan=2, pady=10)
tk.Label(frame, text="Full Name:", font=("Arial", 14)).grid(row=1, column=0, columnspan=2, pady=5)
name_entry = tk.Entry(frame, font=("Arial", 14), justify="center")
name_entry.grid(row=2, column=0, columnspan=2, pady=5)
tk.Label(frame, text="Email:", font=("Arial", 14)).grid(row=3, column=0, columnspan=2, pady=5)
email_entry = tk.Entry(frame, font=("Arial", 14), justify="center")
email_entry.grid(row=4, column=0, columnspan=2, pady=5)
tk.Label(frame, text="Gender:", font=("Arial", 14)).grid(row=5, column=0, columnspan=2, pady=5)
gender_var = tk.StringVar()
gender_frame = tk.Frame(frame)
gender_frame.grid(row=6, column=0, columnspan=2, pady=5)
tk.Radiobutton(gender_frame, text="Male", variable=gender_var, value="Male", font=("Arial", 12)).pack(side="left", padx=10)
tk.Radiobutton(gender_frame, text="Female", variable=gender_var, value="Female", font=("Arial", 12)).pack(side="left")
tk.Label(frame, text="Country:", font=("Arial", 14)).grid(row=7, column=0, columnspan=2, pady=5)
country_var = tk.StringVar()
country_dropdown = ttk.Combobox(frame, textvariable=country_var, font=("Arial", 14), justify="center")
country_dropdown['values'] = ["Select your country", "USA", "UK", "India", "Canada", "Germany"]
country_dropdown.current(0)
country_dropdown.grid(row=8, column=0, columnspan=2, pady=5)
tk.Label(frame, text="Programming:", font=("Arial", 14)).grid(row=9, column=0, columnspan=2, pady=5)
programming_frame = tk.Frame(frame)
programming_frame.grid(row=10, column=0, columnspan=2, pady=5)
java_var = tk.BooleanVar()
python_var = tk.BooleanVar()
tk.Checkbutton(programming_frame, text="Java", variable=java_var, font=("Arial", 12)).pack(side="left", padx=10)
tk.Checkbutton(programming_frame, text="Python", variable=python_var, font=("Arial", 12)).pack(side="left")
submit_btn = tk.Button(frame, text="Submit", font=("Arial", 14, "bold"), bg="red", fg="white")
submit_btn.grid(row=11, column=0, columnspan=2, pady=10)
root.mainloop()

```

(parameter) columnspan: int

**Output:-**




**Result:-**

Thus the all program using Graphical User Interface has been run successfully.