

**BURUGU AJITH****MINI PROJECT****DESCRIPTION:**

Develop a desktop application - Basic arithmetic calculator which performs addition, subtraction, multiplication, division and mod operation using GUI.

**CODE:**

```
import tkinter as tk
```

```
def calculate():
```

```
    num1 = float(entry_num1.get())
```

```
    num2 = float(entry_num2.get())
```

```
    operation = option.get()
```

```
    if operation == "Addition":
```

```
        result = num1 + num2
```

```
    elif operation == "Subtraction":
```

```
        result = num1 - num2
```

```
    elif operation == "Multiplication":
```

```
        result = num1 * num2
```

```
    elif operation == "Division":
```

```
        result = num1 / num2
```

```
    elif operation == "Mod":
```

```
        result = num1 % num2
```

```
    else:
```

```
        result = "Invalid operation"
```

```
result_label.config(text="Result: " + str(result))

# Create the main window
window = tk.Tk()
window.title("Arithmetic Calculator")

# Create input fields
label_num1 = tk.Label(window, text="Number 1:")
label_num1.grid(row=0, column=0, padx=10, pady=10)
entry_num1 = tk.Entry(window)
entry_num1.grid(row=0, column=1, padx=10, pady=10)

label_num2 = tk.Label(window, text="Number 2:")
label_num2.grid(row=1, column=0, padx=10, pady=10)
entry_num2 = tk.Entry(window)
entry_num2.grid(row=1, column=1, padx=10, pady=10)

# Create operation dropdown
label_operation = tk.Label(window, text="Operation:")
label_operation.grid(row=2, column=0, padx=10, pady=10)
option = tk.StringVar(window)
option.set("Addition")
operation_dropdown = tk.OptionMenu(window, option, "Addition",
"Subtraction", "Multiplication", "Division", "Mod")
operation_dropdown.grid(row=2, column=1, padx=10, pady=10)
```

# Create calculate button

```
calculate_button = tk.Button(window, text="Calculate", command=calculate)
```

```
calculate_button.grid(row=3, column=0, columnspan=2, padx=10, pady=10)
```

# Create result label

```
result_label = tk.Label(window, text="Result: ")
```

```
result_label.grid(row=4, column=0, columnspan=2, padx=10, pady=10)
```

# Start the main event loop

```
window.mainloop()
```

## OUTPUT:

The screenshot displays a Jupyter Notebook interface with a code cell and a preview of the application window.

**Code Cell:**

```
In [2]: import tkinter as tk

def calculate():
    num1 = float(entry_num1.get())
    num2 = float(entry_num2.get())

    operation = option.get()

    if operation == "Addition":
        result = num1 + num2
    elif operation == "Subtraction":
        result = num1 - num2
    elif operation == "Multiplication":
        result = num1 * num2
    elif operation == "Division":
        result = num1 / num2
    elif operation == "Mod":
        result = num1 % num2
    else:
        result = "Invalid operation"

    result_label.config(text="Result: " + str(result))

# Create the main window
window = tk.Tk()
window.title("Arithmetic Calculator")

# Create input fields
label_num1 = tk.Label(window, text="Number 1:")
label_num1.grid(row=0, column=0, padx=10, pady=10)
entry_num1 = tk.Entry(window)
entry_num1.grid(row=0, column=1, padx=10, pady=10)

label_num2 = tk.Label(window, text="Number 2:")
```

**Application Window Preview:**

The preview shows a window titled "Arithmet...". It contains two input fields labeled "Number 1:" and "Number 2:". The "Number 1:" field contains the value "10", and the "Number 2:" field contains the value "4". Below these fields is a dropdown menu for "Operation:" with "Addition" selected. A "Calculate" button is positioned below the dropdown. At the bottom of the window, the text "Result: 15.0" is displayed.

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```

result_label.config(text="Result: " + str(result))

# Create the main window
window = tk.Tk()
window.title("Arithmetic Calculator")

# Create input fields
label_num1 = tk.Label(window, text="Number 1:")
label_num1.grid(row=0, column=0, padx=10, pady=10)
entry_num1 = tk.Entry(window)
entry_num1.grid(row=0, column=1, padx=10, pady=10)

label_num2 = tk.Label(window, text="Number 2:")
label_num2.grid(row=1, column=0, padx=10, pady=10)
entry_num2 = tk.Entry(window)
entry_num2.grid(row=1, column=1, padx=10, pady=10)

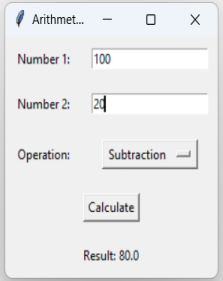
# Create operation dropdown
label_operation = tk.Label(window, text="Operation:")
label_operation.grid(row=2, column=0, padx=10, pady=10)
option = tk.StringVar(window)
option.set("Addition")
operation_dropdown = tk.OptionMenu(window, option, "Addition", "Subtraction", "Multiplication", "Division", "Mod")
operation_dropdown.grid(row=2, column=1, padx=10, pady=10)

# Create calculate button
calculate_button = tk.Button(window, text="Calculate", command=calculate)
calculate_button.grid(row=3, column=0, columnspan=2, padx=10, pady=10)

# Create result label
result_label = tk.Label(window, text="Result: ")
result_label.grid(row=4, column=0, columnspan=2, padx=10, pady=10)

# Start the main event loop
window.mainloop()

```



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```

# Create the main window
window = tk.Tk()
window.title("Arithmetic Calculator")

# Create input fields
label_num1 = tk.Label(window, text="Number 1:")
label_num1.grid(row=0, column=0, padx=10, pady=10)
entry_num1 = tk.Entry(window)
entry_num1.grid(row=0, column=1, padx=10, pady=10)

label_num2 = tk.Label(window, text="Number 2:")
label_num2.grid(row=1, column=0, padx=10, pady=10)
entry_num2 = tk.Entry(window)
entry_num2.grid(row=1, column=1, padx=10, pady=10)

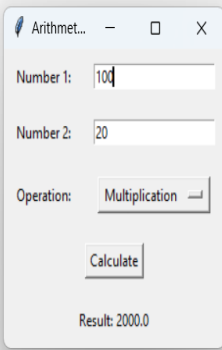
# Create operation dropdown
label_operation = tk.Label(window, text="Operation:")
label_operation.grid(row=2, column=0, padx=10, pady=10)
option = tk.StringVar(window)
option.set("Addition")
operation_dropdown = tk.OptionMenu(window, option, "Addition", "Subtraction", "Multiplication", "Division", "Mod")
operation_dropdown.grid(row=2, column=1, padx=10, pady=10)

# Create calculate button
calculate_button = tk.Button(window, text="Calculate", command=calculate)
calculate_button.grid(row=3, column=0, columnspan=2, padx=10, pady=10)

# Create result label
result_label = tk.Label(window, text="Result: ")
result_label.grid(row=4, column=0, columnspan=2, padx=10, pady=10)

# Start the main event loop
window.mainloop()

```



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File Edit View Insert Cell Kernel Widgets Help Trusted Python 3 (ipykernel)

```
In [*]: import tkinter as tk

def calculate():
    num1 = float(entry_num1.get())
    num2 = float(entry_num2.get())

    operation = option.get()

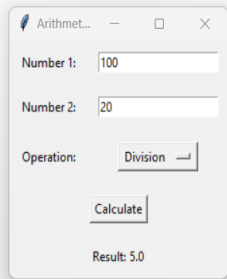
    if operation == "Addition":
        result = num1 + num2
    elif operation == "Subtraction":
        result = num1 - num2
    elif operation == "Multiplication":
        result = num1 * num2
    elif operation == "Division":
        result = num1 / num2
    elif operation == "Mod":
        result = num1 % num2
    else:
        result = "Invalid operation"

    result_label.config(text="Result: " + str(result))

# Create the main window
window = tk.Tk()
window.title("Arithmetic Calculator")

# Create input fields
label_num1 = tk.Label(window, text="Number 1:")
label_num1.grid(row=0, column=0, padx=10, pady=10)
entry_num1 = tk.Entry(window)
entry_num1.grid(row=0, column=1, padx=10, pady=10)

label_num2 = tk.Label(window, text="Number 2:")
```



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File Edit View Insert Cell Kernel Widgets Help Trusted Python 3 (ipykernel)

```
In [*]: import tkinter as tk

def calculate():
    num1 = float(entry_num1.get())
    num2 = float(entry_num2.get())

    operation = option.get()

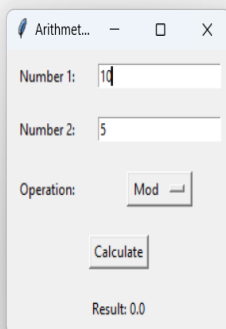
    if operation == "Addition":
        result = num1 + num2
    elif operation == "Subtraction":
        result = num1 - num2
    elif operation == "Multiplication":
        result = num1 * num2
    elif operation == "Division":
        result = num1 / num2
    elif operation == "Mod":
        result = num1 % num2
    else:
        result = "Invalid operation"

    result_label.config(text="Result: " + str(result))

# Create the main window
window = tk.Tk()
window.title("Arithmetic Calculator")

# Create input fields
label_num1 = tk.Label(window, text="Number 1:")
label_num1.grid(row=0, column=0, padx=10, pady=10)
entry_num1 = tk.Entry(window)
entry_num1.grid(row=0, column=1, padx=10, pady=10)

label_num2 = tk.Label(window, text="Number 2:")
```



**Conclusion:**

The program is a basic calculator that you can use on your computer. It has buttons and fields where you can enter numbers, select an operation like addition or subtraction, and then calculate the result.