

# Project on Calculator

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# INTRODUCTION:

- ▶ This project is about a scientific calculator which is an electronic calculator, either desktop or handheld, designed to perform calculations using basic (addition, subtraction, multiplication, division) and complex (trigonometric, hyperbolic, etc.) mathematical operations and functions. They have completely replaced slide rules and are used in both educational and professional settings.





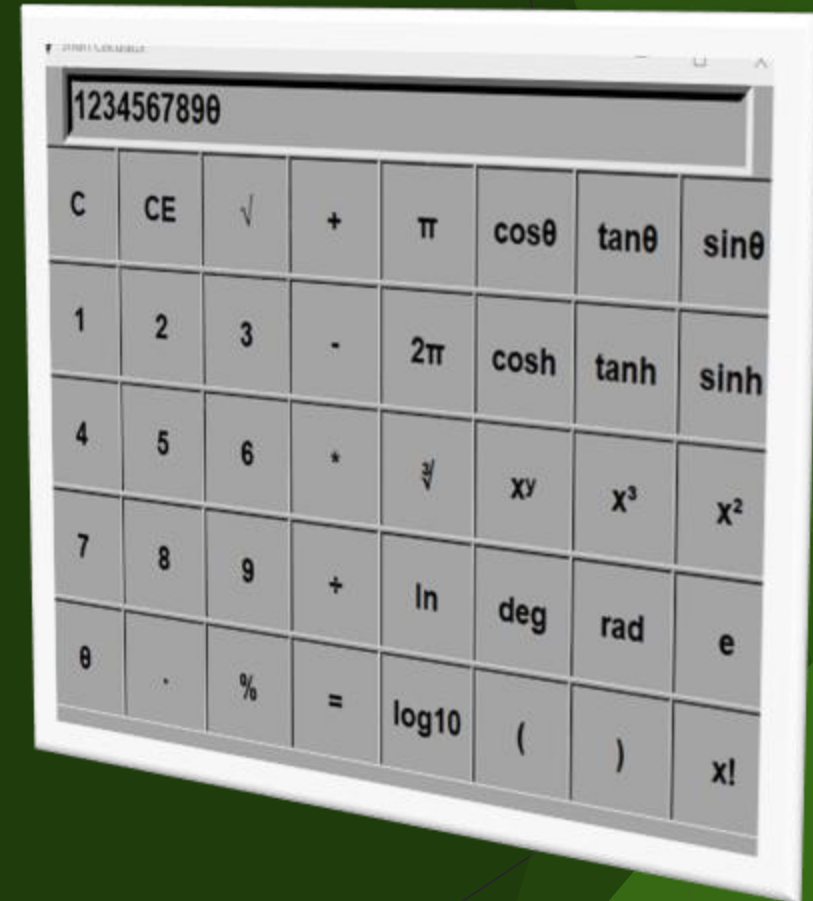
# LANGUAGE & TOOLS:

- In this project, we have used Python Language to create a scientific calculator because Python has few keywords, simple structure and a clearly defined syntax , which allows student to pick up the language easily. It's more clearly defined and visible to eyes. Python's source code is fairly easy to maintain .

```
mirror_mod = modifier_ob.  
set mirror object to mirror  
mirror_mod.mirror_object  
operation == "MIRROR_X":  
mirror_mod.use_x = True  
mirror_mod.use_y = False  
mirror_mod.use_z = False  
operation == "MIRROR_Y":  
mirror_mod.use_x = False  
mirror_mod.use_y = True  
mirror_mod.use_z = False  
operation == "MIRROR_Z":  
mirror_mod.use_x = False  
mirror_mod.use_y = False  
mirror_mod.use_z = True  
  
@selection at the end -add  
mirror_ob.select= 1  
modifier_ob.select=1  
context.scene.objects.active  
("Selected" + str(modifier_ob.  
mirror_ob.select = 0  
= bpy.context.selected_object  
data.objects[one.name].select  
  
print("please select exactly  
  
-- OPERATOR CLASSES ----  
  
types.Operator):  
X mirror to the selected  
object.mirror_mirror_x"  
mirror X"  
  
context):  
context.active_object is not
```

# SYSTEM FEATURES:

- ▶ 1. Basic Arithmetic Operations: - (+, -, \*, /)
- ▶ 2. Trigonometric Functions: - (sin), (cos), (tan)
- ▶ 3. Logarithmic and Exponential Functions: (log), (ln), (e).
- ▶ 4. Root and Power Functions: ( $\sqrt{x}$ ), ( $x^y$ ), ( $x^3$ ).
- ▶ 5. Constants: pi ( $\pi$ ), ( $2\pi$ ).
- ▶ 6. Angle Unit Conversion: degrees and radians.
- ▶ 7. Parentheses Support: [(),]
- ▶ 8. Advanced Functions: ( $x!$ , %,  $\theta$ )
- ▶ 9. Clear Functions: C- clear one by one, CE- clears whole digits.





# LIMITATIONS AND FUTURE SCOPE:

## Limitations:

- ▶ 1. Limited Built-in Functionality: Python doesn't have built-in support for complex mathematical operations found in scientific calculators. We'll need to implement functions for trigonometry, exponential and either mathematical operations.
- ▶ 2. User Interface: Python is typically used for creating user interfaces. So we'll need to use additional libraries such as Tkinter.

## Future Scope:

- ▶ 1. Enhanced Learning Opportunities
- ▶ 2. Portfolio Development
- ▶ 3. Integration with other libraries
- ▶ 4. Mobile Application
- ▶ 5. Web based Calculator

GitHub Repository Link