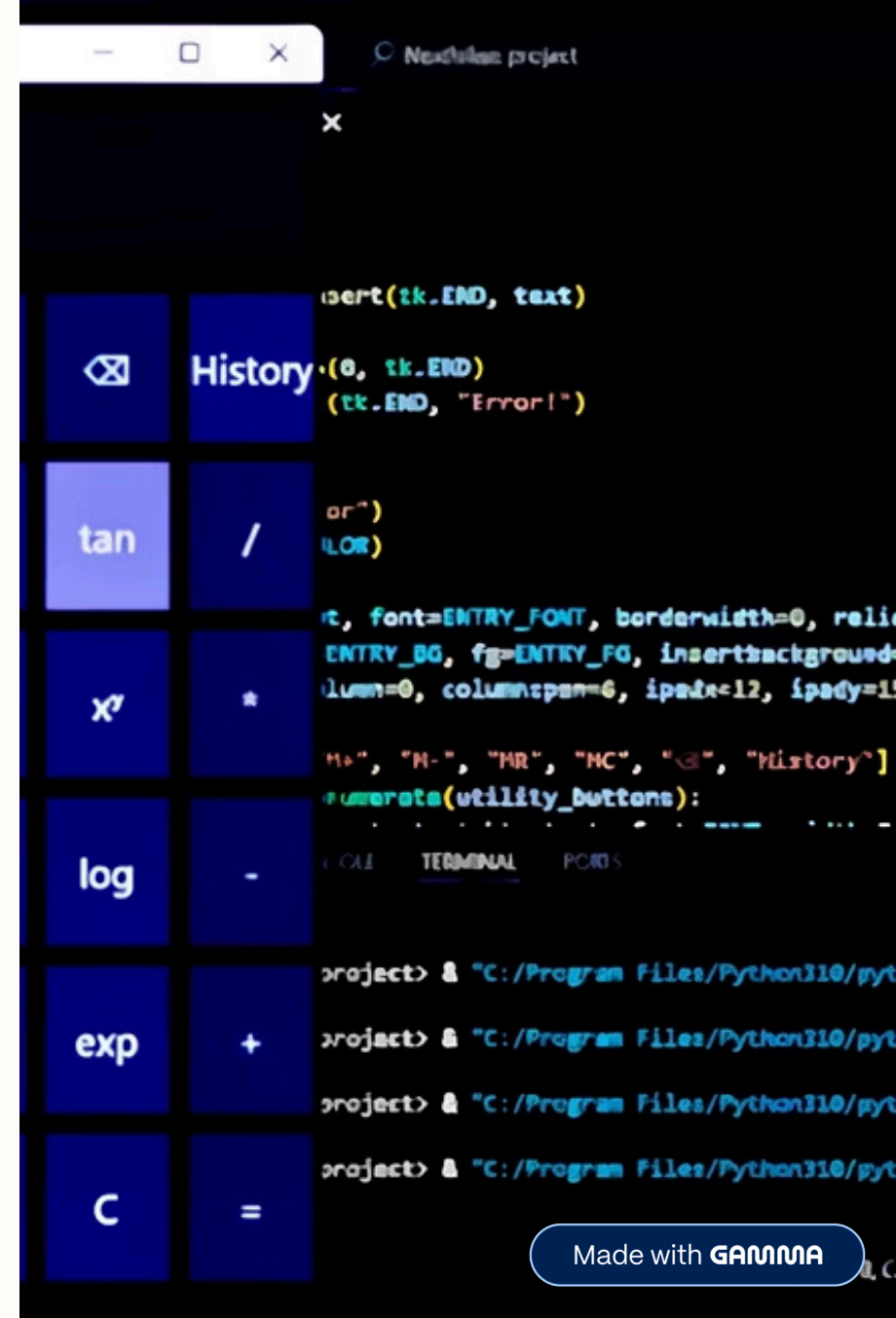


# Calculator Project

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# Calculator Features & Uniqueness

## Advanced Functions

Supports roots, exponents, logs, trigonometry

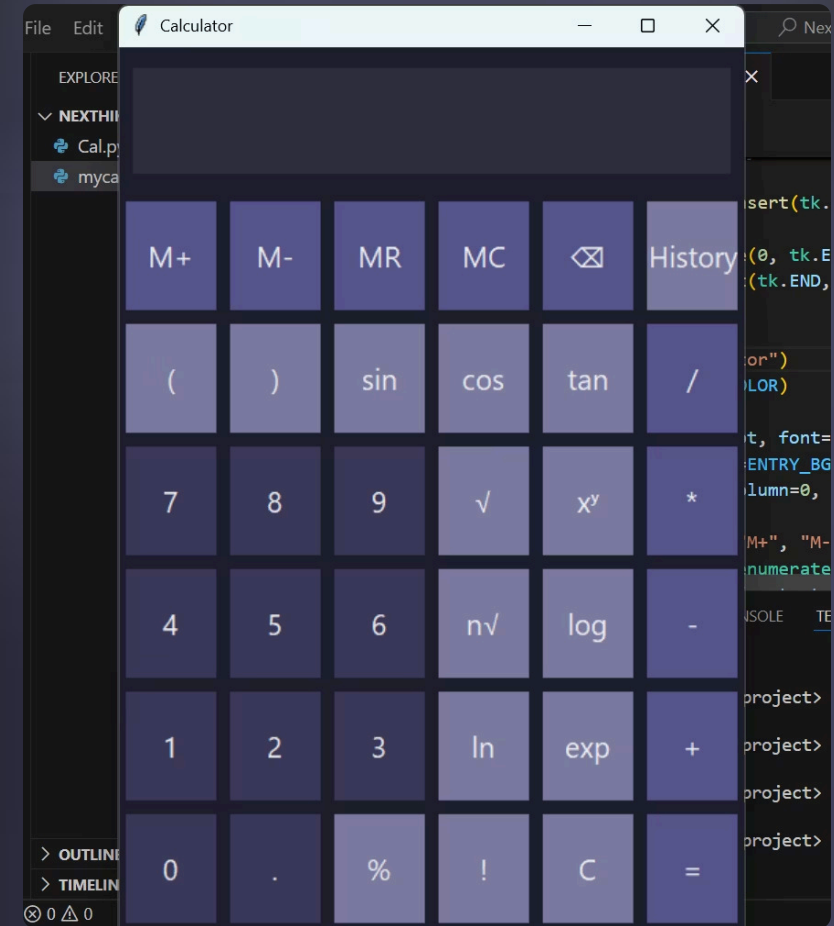
## Memory Operations

Memory add, subtract, recall, clear

## Input Validation

Limits input length, error handling

(Adding a screenshot of the calculator made by me.)



# Libraries Used



tkinter

GUI creation and event handling



math

Mathematical functions and constants



re

Expression preprocessing with regex

- Each library enables core calculator functionality and UI.
- tkinter was chosen due to its simplicity, lightweight nature, and wide availability in standard Python installations, making development and deployment more straightforward.
- Guided by our mentor's insight, I immersed myself in exploring the tkinter library.

# Challenges Faced & How I Overcame Them

1. **Designing the Interface**–Initially, the calculator looked very basic. I struggled with making the UI attractive. After researching online and watching YouTube tutorials, I learned to use padding and borders to improve button visibility and layout.
2. **Implementing Advanced Features**– Basic operations were simple, but adding advanced features like keyboard input, square root, percentage, and dark mode was challenging due to complex logic. I overcame this by studying examples, watching tutorial videos, and breaking the problems into smaller parts.
3. **Debugging Errors**– I often ran into coding errors I didn't understand. I watched youtube videos for that particular code type and used Google for explanations and corrections, which helped me fix bugs and learn better coding practices.

Have attached the references in the next slide.

# References

- <https://dev.to/spiff/calculator-with-gui-using-python-tkinter-jpn>
- <https://www.geeksforgeeks.org/python-gui-tkinter/>
- [https://www.youtube.com/watch?v=fbxsYcSccJE&list=PLuOW\\_9lII9ajLcqRcj4PoEihkukF\\_OTzA&index=28](https://www.youtube.com/watch?v=fbxsYcSccJE&list=PLuOW_9lII9ajLcqRcj4PoEihkukF_OTzA&index=28)
- <https://codewithcurious.com/projects/scientific-calculator-using-python/>
- <https://www.youtube.com/watch?v=c6gjhWvj2lO>
- <https://www.youtube.com/playlist?list=PLCC34OHNcOtoC6GglhF3ncJ5rLwQrLGnV>



# Thank You

Appreciate your time and attention

Questions and feedback welcome

Thank