SCIENTIFIC CALCULATOR

Presented By

CONFUSED CODER

TEAM ID:- B49_03

Department of Computer Science and Engineering
Bennett University, Uttar Pradesh, India

Supervisor

Vaibhav Tiwari

Associate Professor, Department of Computer Science and Engineering, Bennett University, Uttar Pradesh, India

Co-Supervisor

Arvind Kumar

Associate Professor, Department of Computer Science and Engineering, Bennett University, Uttar Pradesh, India

SCIENTIFIC CALCULATOR

- Team Name: Confused Coders
- Team Number: B49_03
- Team Members Detail:

Isha Rathour: S25CSEU1458

Vitul Shubh Modi: S25CSEU1464

Parinita Jha: S25CSEU1474

Samridhi Joshi: S25CSE1462

Prithi Khanna: S25CSEU1465

INDIVIDUAL CONTRIBUTION

LEADER :

Isha Rathour – S25CSEU1458

CODING WORK :

Samridhi Joshi - S25CSEU1462
Parinita Jha - S25CSEU1474
Vitul Modi - S25CSEU1464

PPT AND PRESENTATION:

Isha Rathour - S25CSEU1458
Prithi Khanna - S25CSEU1465

REPORT MAKER :

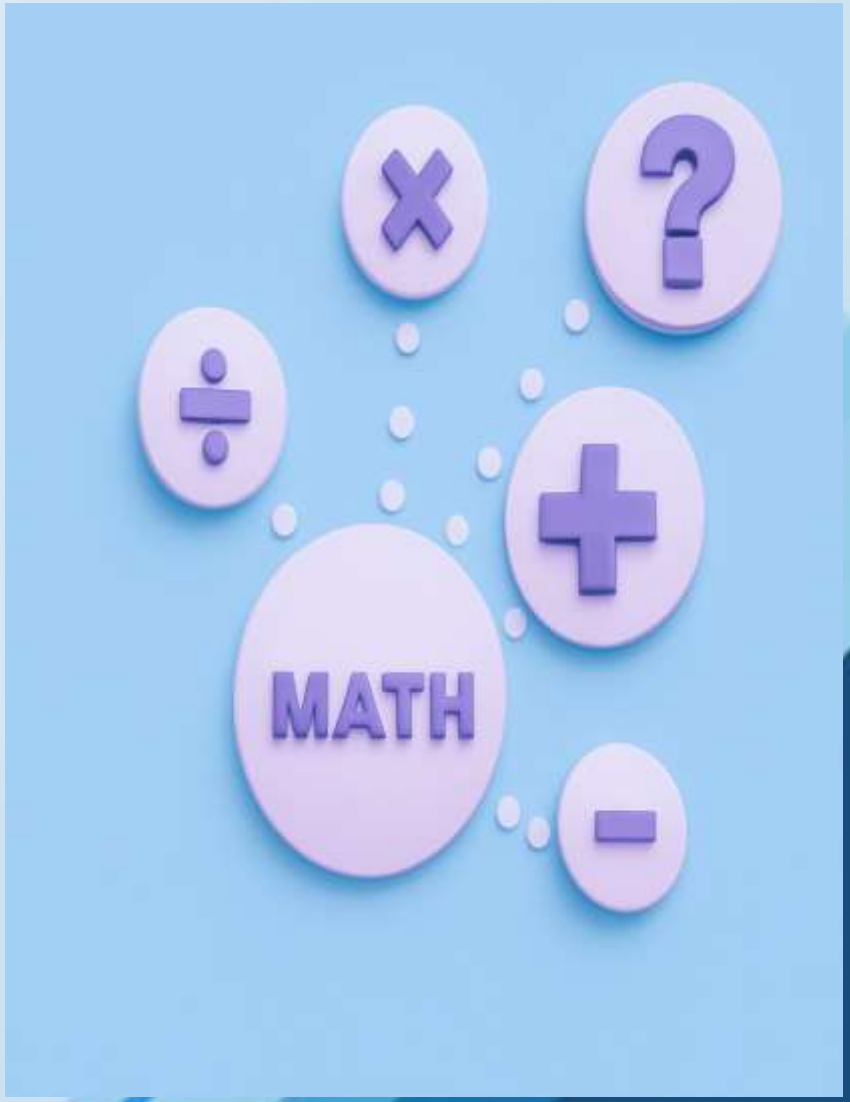
Isha Rathour– S25CSEU1458

PROJECT DESCRIPTION

1. A scientific calculator webpage provides an interactive interface for complex mathematical calculations.

2. The software can be used perform functions beyond basic arithmetic, such as trigonometric, logarithmic, and exponential operations, and are essential tools for students in math and science courses.

3. The webpage is made with combination of Python, HTML, JavaScript and CSS where Python is majorly used.



PROJECT DESCRIPTION

PYTHON

- The FLASK routes handle the main interface.
- The main use of Python in scientific calculator software is to provide a safe, flexible, and powerful engine for evaluating complex mathematical expressions.

HTML

- The main use of HTML in a software of a scientific calculator is to provide the structure and content of the web page's user interface (UI).

CSS

- The main use of CSS (Cascading Style Sheets) in a scientific calculator software,
- especially a web-based one, is to control the entire visual presentation and layout of the user
- interface. It dictates how the HTML elements look and where they are positioned on the
- screen.

JAVA SCRIPT

JavaScript in this code handles all user interactions — button clicks, keyboard typing, cursor movement, dynamic matrix creation, matrix calculations using math.js, showing results, updating expressions and controlling the UI .

SOLUTIONS

PROBLEMS FACED BY USER'S WHILE USING HARDWARE SCIENTIFIC CALCULATORS:

→ Maintenance Issues

→Durability

→ Cost Factor

→High Risk of User Errors

SOLUTION TO THE PROBLEMS BY SOFTWARE SCIENTIFIC CALCULATOR:

→Immunity to Physical Damage as it depends on the power of user's device.

→Rich Display and History: Uses high-resolution display and often show entire calculation history.

APPLICATIONS

- The scientific calculator is mostly used in education, engineering, research and various technical fields.

- It helps students and professionals in performing complex mathematical operations such as trigonometry, combinations, matrices, and statistical calculations quickly and accurately.

- In engineering, it is used to solve and analyze data and perform measurements essential for experiments and design work.

APPLICATIONS

FAST CALCULATIONS :-

The calculator saves a lot of time by solving long and complex calculations in just a few seconds.

USEFUL FOR FINANCIAL CALCULATIONS :-

Can be used in calculating interest, percentages, ratios and growth values; is also helpful in commerce-related problems.

REDUCES ERRORS :-

It helps avoid mistakes that may occur while performing manual calculations; making answers more accurate.

REFERENCES

- Mary L. Boas (Book).
- CASIO. Scientific Calculator
- Article : “Basic Scientific Calculator Functions”.
- ChatGPT and Google Gemini.