

A

Project Report

On

TITLE OF PROJECT

CALCULATOR WEBAPP

Submitted in partial fulfilment of the requirement for the IV semester

Bachelor of Technology (CSE)

By

Name of the Students' (PRIYANSHU SHAHI) University Roll No (2061896)

Name of the Students' (GAURAV SUNAL) University Roll No (2061813)

Name of the Students' (CHANDAN SINGH) University Roll No (2061792)

...

Under the Guidance of (Class Coordinator)

Name of Faculty (Mr. Ravindra Koranga)

Designation (GEHU Bhimtal Campus)

Department of CSE



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

GRAPHIC ERA HILL UNIVERSITY, BHIMTAL CAMPUS

SATTAL ROAD, P.O. BHOWALI

DISTRICT- NAINITAL-263132

2021 – 2022

STUDENT'S DECLARATION

I **GAURAV SUNAL**, here by declare the work, which is being presented in the project, entitled "**CALCULATOR** " in partial fulfilment of the requirement for the award of the degree **B.Tech. CSE** in the session **2021-2022**, is an authentic record of my own work carried out under the supervision of Graphic Era Hill University college guide name Mr. Ravindra Koranga.

The matter embodied in this project has not been submitted by me for the award of any other degree.

Date: _____

GAURAV SUNAL



STUDENT'S DECLARATION

I **PRIYANSHU SHAHI**, here by declare the work, which is being presented in the project, entitled "**CALCULATOR** " in partial fulfilment of the requirement for the award of the degree **B.Tech. CSE** in the session **2021-2022**, is an authentic record of my own work carried out under the supervision of Graphic Era Hill University college guide name Mr. Arun Kumar Rai.

The matter embodied in this project has not been submitted by me for the award of any other degree.

Date: _____

PRIYANSHU SHAHI



STUDENT'S DECLARATION

I **CHANDAN SINGH**, here by declare the work, which is being presented in the project, entitled
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supervision of Graphic Era Hill University college guide name Mr. Ravindra Koranga.

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degree.

Date: _____

CHANDAN SINGH



CERTIFICATE

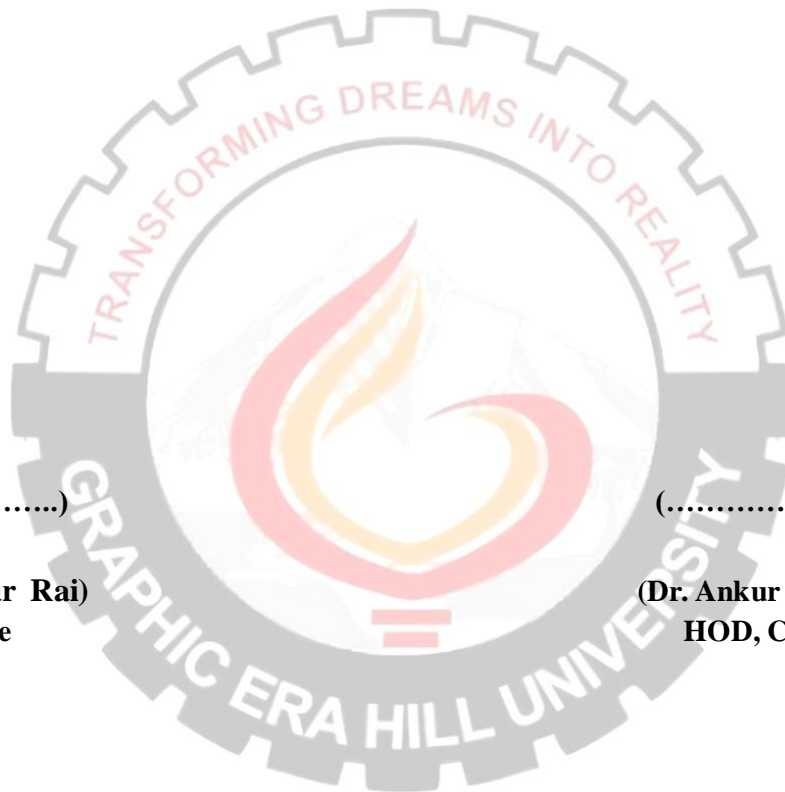
The term work of “**Calculator**” being submitted by I **PRIYANSHU SHAHI** d/o /s/o **Mr. Lalit Mohan Shahi** ,roll no **2061896** to Graphic Era Hill University Bhimtal Campus for the award of bona fide work carried out by him/her. He has worked under my guidance and supervision and fulfilled the requirement for the submission of this work report.

(.....)

(Mr. Arun Kumar Rai)
Project guide

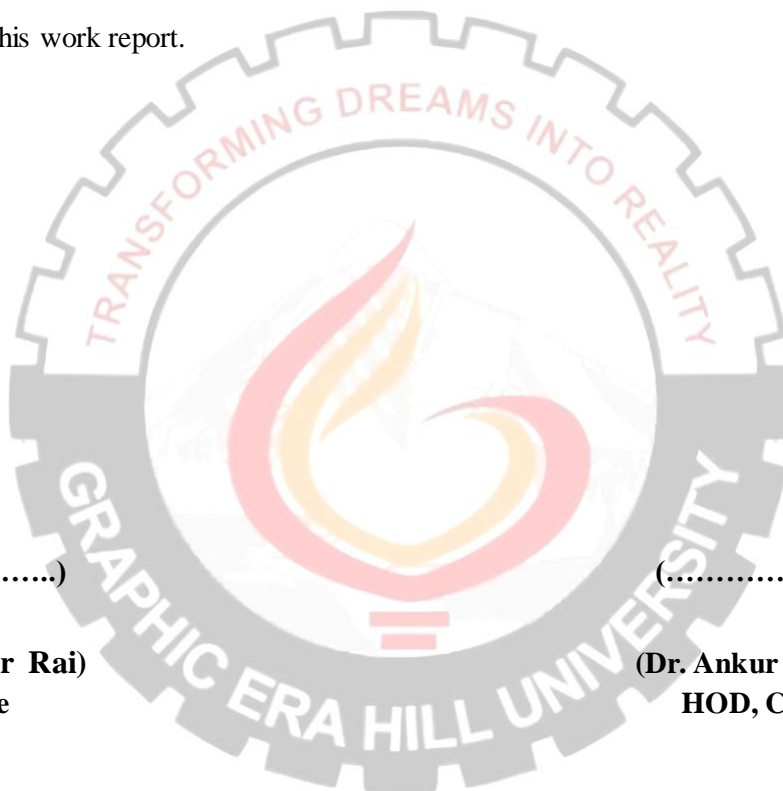
(.....)

(Dr. Ankur Singh Bisht)
HOD, CSE Dept.



CERTIFICATE

The term work of “**Calculator**” being submitted by **IGAURAV SUNAL** d/o/s/o **Mr. Lalit Mohan Sunal**, roll no **2061813** to Graphic Era Hill University Bhimtal Campus for the award of bona fide work carried out by him/her. He has worked under my guidance and supervision and fulfilled the requirement for the submission of this work report.



(.....)

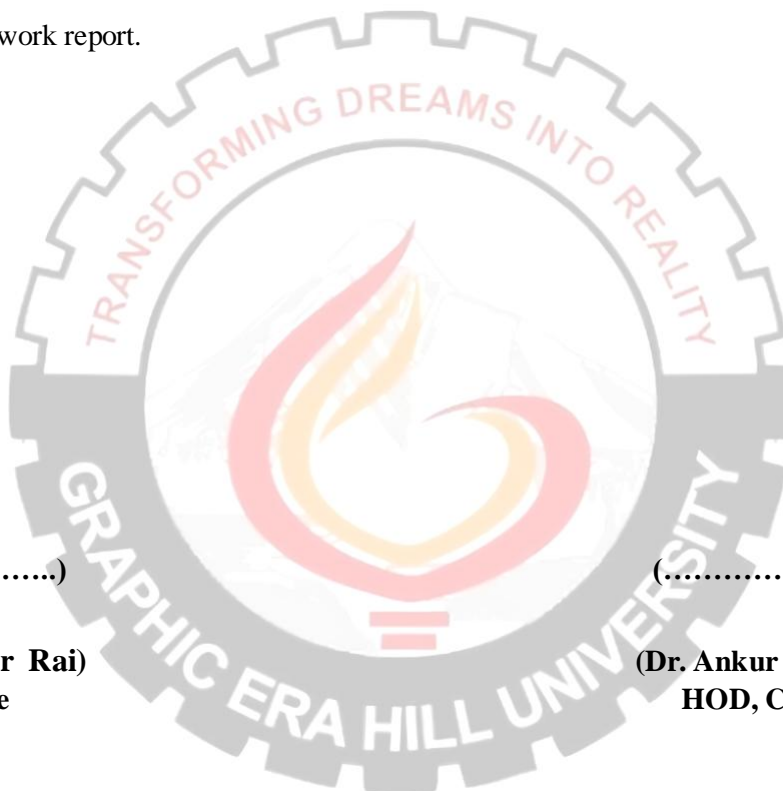
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Project guide

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CERTIFICATE

The term work of “**Calculator**” being submitted by **Chandan Singh** d/o /s/o **Uday Singh** , roll no **2061792** to Graphic Era Hill University Bhimtal Campus for the award of bona fide work carried out by him/her. He has worked under my guidance and supervision and fulfilled the requirement for the submission of this work report.



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Project guide

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(Dr. Ankur Singh Bisht)
HOD, CSE Dept.

ACKNOWLEDGEMENT

We take immense pleasure in thanking Honourable **“Mr. Arun Kumar Rai”**, to permit me and carry out this project work with his excellent and optimistic supervision. This has all been possible due to his novel inspiration, able guidance and useful suggestions that helped me to develop as a creative researcher and complete the research work, in time.

Words are inadequate in offering my thanks to GOD for providing me everything that I need. I again want to extend thanks to our President **“Prof. (Dr.) Kamal Ghanshala”** for providing us all infrastructure and facilities to work in need without which this work could not be possible.

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CHAPTER 1

INTRODUCTION

1.1 ABOUT

CALCULATOR

A calculator is a device that performs arithmetic operations on numbers. Basic calculators can do only addition, subtraction, multiplication and division mathematical calculations.

What is Replit?

Replit allows users to write code and build apps and websites using a browser. The site also has various collaborative features, including capability for real-time, multi-user editing with a live chat feed. It supports over 50 programming and markup languages such as Java, Python, and HTML, enabling users to build apps and websites, but since the introduction Nix can now run any language in existence. The site is integrated with GitHub, a code-hosting platform, providing a way to import and run projects from GitHub. Users can also import projects from Glitch, which provides a similar service to Replit.

GitHub

GitHub is a web-based version-control and collaboration platform for software developers. Microsoft, the biggest single contributor to GitHub, initiated an acquisition of GitHub for \$7.5 billion in June, 2018. GitHub, which is delivered through a software-as-a-service (SaaS) business model, was started in 2008 and was founded on Git, an open source code management system created by Linus Torvalds to make software builds faster.

1.2 PROLOGUE

A calculator is a device that performs arithmetic operations on numbers. Basic calculators can do only addition, subtraction, multiplication and division mathematical calculations.

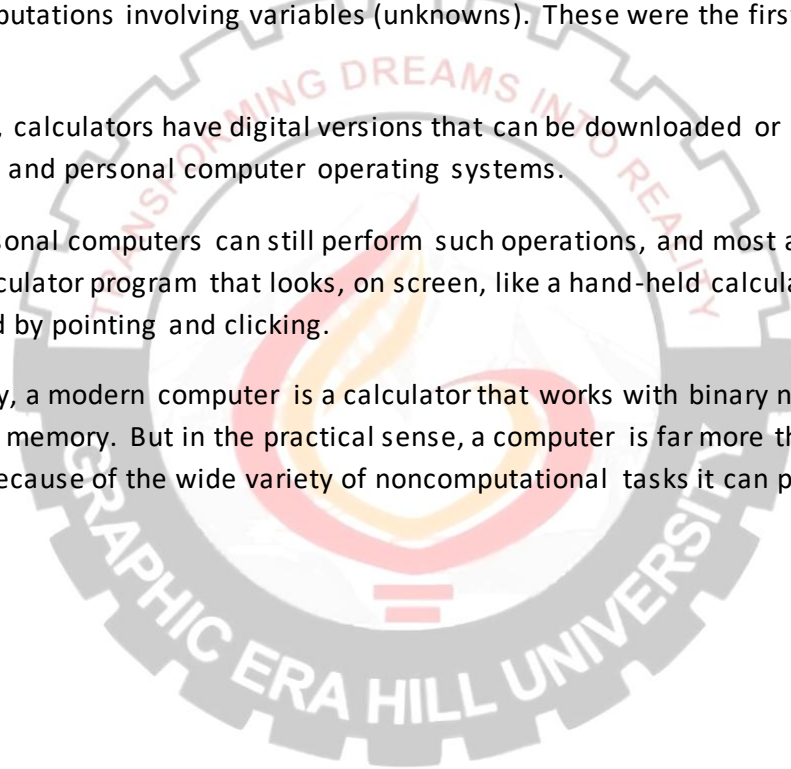
However, more sophisticated calculators can handle exponential operations, square roots, logarithms, trigonometric functions and hyperbolic functions. Internally, some calculators perform all these functions by repeated addition processes.

As calculators became more advanced during the 1970s, they were able to make problem-solving computations involving variables (unknowns). These were the first personal computers.

Additionally, calculators have digital versions that can be downloaded or come with most smartphone and personal computer operating systems.

Today's personal computers can still perform such operations, and most are provided with a virtual calculator program that looks, on screen, like a hand-held calculator. The buttons are actuated by pointing and clicking.

Theoretically, a modern computer is a calculator that works with binary numbers and has a much larger memory. But in the practical sense, a computer is far more than a mere calculator because of the wide variety of noncomputational tasks it can perform.



1.3 BACKGROUND AND MOTIVATION

This technology allows students solve complicated problems quickly and in an efficient manner. Additionally, it can reduce the problem to simpler tasks and allows the student to devote more time in understanding the problem.

Secondly, they are saved from monotonous calculations and the same boring mundane procedure.

The above advantages help students to avoid boredom, and it does not demoralize their mathematical understanding. If mathematics is not made entertaining, pupils can feel bored, and it can demoralize their mathematical understanding.

Thirdly, when teachers realize that the mathematical capacity of some of their pupils are not so great, using this handheld device or the online calculator platforms, helps them manage addition, subtraction, multiplication and division problems in an efficient manner. Teachers understand that the student would not have learned mathematical table of 20x, or would be well versed in solving the problem without the help of a mathematical device or paper. They would make fewer mistakes and will be more comfortable in solving tough problems. If a student is confident about his or her ability, then the problem seems halfway solved.

Most handheld or online calculators are relatively cheap, various designs and functionality suitable for various budgets. They are also inexpensive to maintain once handled with care. As a professional, in any field, the Calculator save time, energy and increases efficiency in workplace.

1.3 PROBLEM STATEMENT

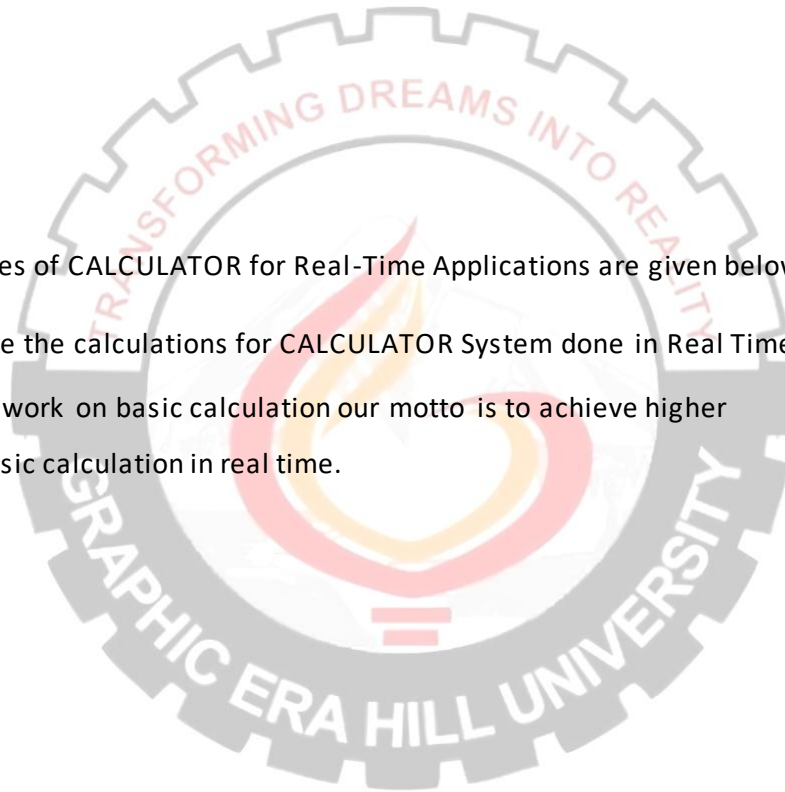
The Problem statement of CALCULATOR for Real-Time Applications are given below:

- To do calculation in real time.
- Enhance the Speed.
- Do large calculation in few times.

1.4 OBJECTIVES

The objectives of CALCULATOR for Real-Time Applications are given below:

- To enhance the calculations for CALCULATOR System done in Real Time.
- Presently, work on basic calculation our motto is to achieve higher calculations / Basic calculation in real time.



CHAPTER 2

PROPOSED SYSTEM

2.1 HISTORY

This chapter presents an overview of Calculator system and its applications in real time.

An electronic calculator is typically a portable electronic device used to perform calculations, ranging from basic arithmetic to complex mathematics. Modern electronic calculators vary from cheap, give-away, credit-card-sized models to sturdy desktop models with built-in printers. They became popular in the mid-1970s as the incorporation of integrated circuits reduced their size and cost. By the end of that decade, prices had dropped to the point where a basic calculator was affordable to most and they became common in schools.

In addition to general purpose calculators, there are those designed for specific markets. For example, there are scientific calculators which include trigonometric and statistical calculations. Some calculators even have the ability to do computer algebra. Graphing calculators can be used to graph functions defined on the real line, or higher-dimensional Euclidean space. As of 2016, basic calculators cost little, but scientific and graphing models tend to cost more.

With the very wide availability of smartphones, tablet computers and personal computers, dedicated hardware calculators, while still widely used, are less common than they once were. In 1986, calculators still represented an estimated 41% of the world's general-purpose hardware capacity to compute information. By 2007, this had diminished to less than 0.05%

2.2 GOVERNMENT USE

- Tax calculation
- Statistics field

2.3 COMMERCIAL USE

-Day Care

- Everyday use
- E-Commerce
- Banking

CHAPTER 3

S/W REQUIREMENTS

3.1 SOFTWARE REQUIREMENT

Name of component	Specification
Software used	Html,css,js
Packages used	Html Css Js
Module	Calculate
Tools used	Html Css Js

CHAPTER 4

Coding of Function

Features of the Calculator

In this project, you are going to develop a calculator that will have the following features:

- It will perform basic arithmetic operations like addition, subtraction, division, and multiplication.
- It will perform decimal operations.
- The calculator will display **Infinity** if you try to divide any number by zero.
- It will not display any result in case of invalid expression. For example, $5++9$ will not display anything.
- Clear screen feature to clear the display screen anytime you want.

Components of the Calculator

The calculator consists of the following components:

Mathematical Operators: Addition (+), Subtraction (-), Multiplication (*), and Division (/).

Digits and Decimal Button: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, . .

Display Screen: It displays the mathematical expression and the result.

Clear Screen Button: It clears all mathematical values.

Calculate button (=): It evaluates the mathematical expression and returns the result.

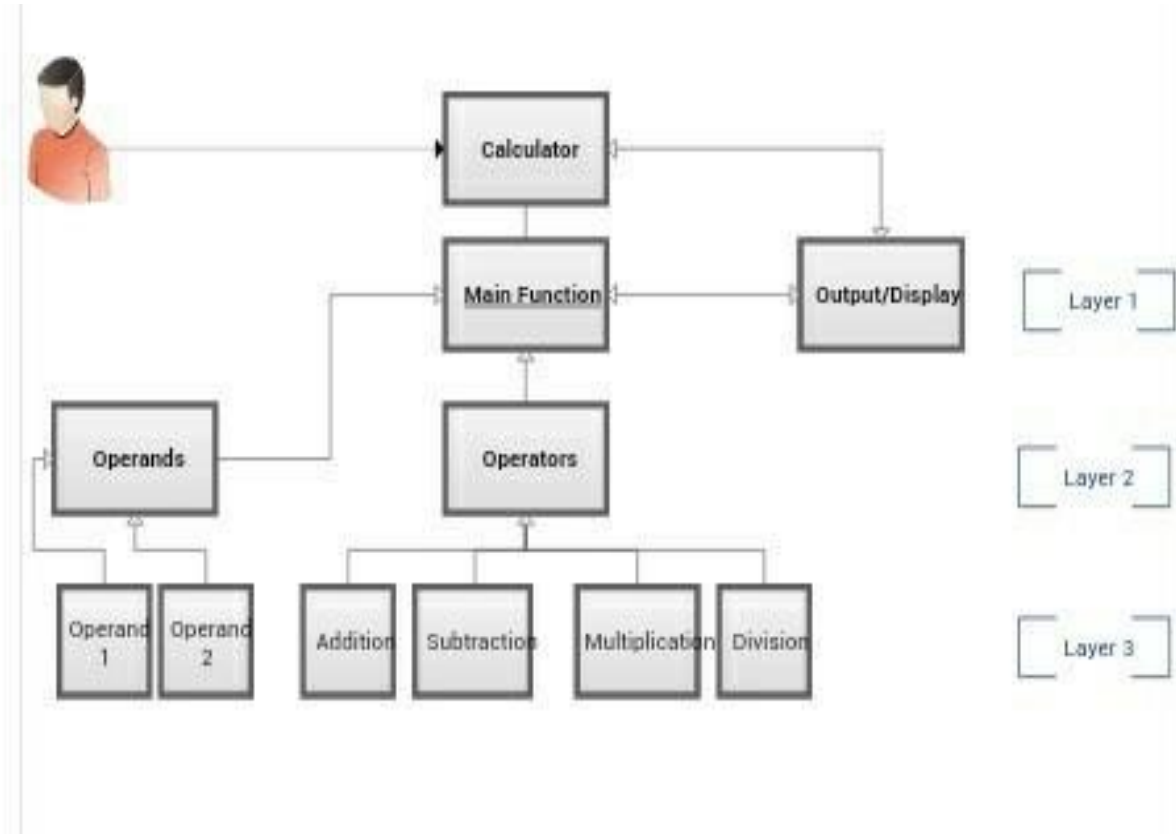
UI - INTERFACE

Welcome to Calculate me!

C	%	()
7	8	9	*
4	5	6	/
1	2	3	+
0	.	=	-



ER DIAGRAM



HTML Code

Open the **index.html** file and paste the following HTML code for the calculator:

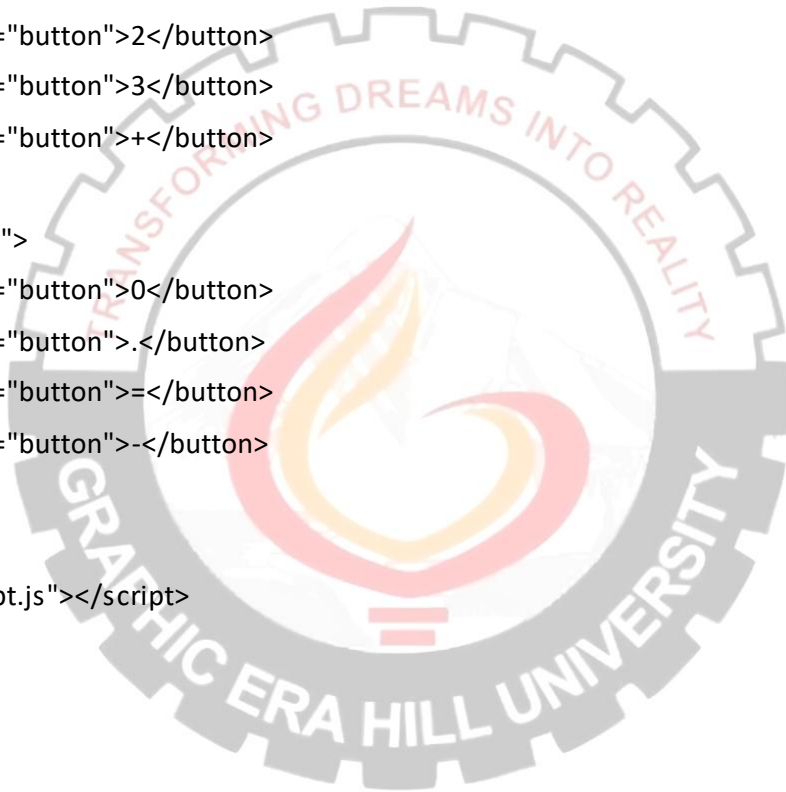
```
<!DOCTYPE html>
<html>

<head>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width">
  <title>Calculate me! - A calculator made my me</title>
  <link href="style.css" rel="stylesheet" type="text/css" />
  <link href="utils.css" rel="stylesheet" type="text/css" />
</head>

<body>
  <h1 class="text-center">Welcome to Calculate me!</h1>
  <div class="container flex flex-col items-center mx-auto m-w-20">
    <div class="row">
      <input class="input" type="text"/>
    </div>
    <div class="row">
      <button class="button">C</button>
      <button class="button">%</button>
      <button class="button">M+</button>
      <button class="button">M-</button>
    </div>
    <div class="row">
      <button class="button">7</button>
      <button class="button">8</button>
      <button class="button">9</button>
```

```
<button class="button">*</button>
</div>
<div class="row">
  <button class="button">4</button>
  <button class="button">5</button>
  <button class="button">6</button>
  <button class="button">/</button>
</div>
<div class="row">
  <button class="button">1</button>
  <button class="button">2</button>
  <button class="button">3</button>
  <button class="button">+</button>
</div>
<div class="row">
  <button class="button">0</button>
  <button class="button">.</button>
  <button class="button">=</button>
  <button class="button">-</button>
</div>
</div>
<script src="script.js"></script>
</body>

</html>
```



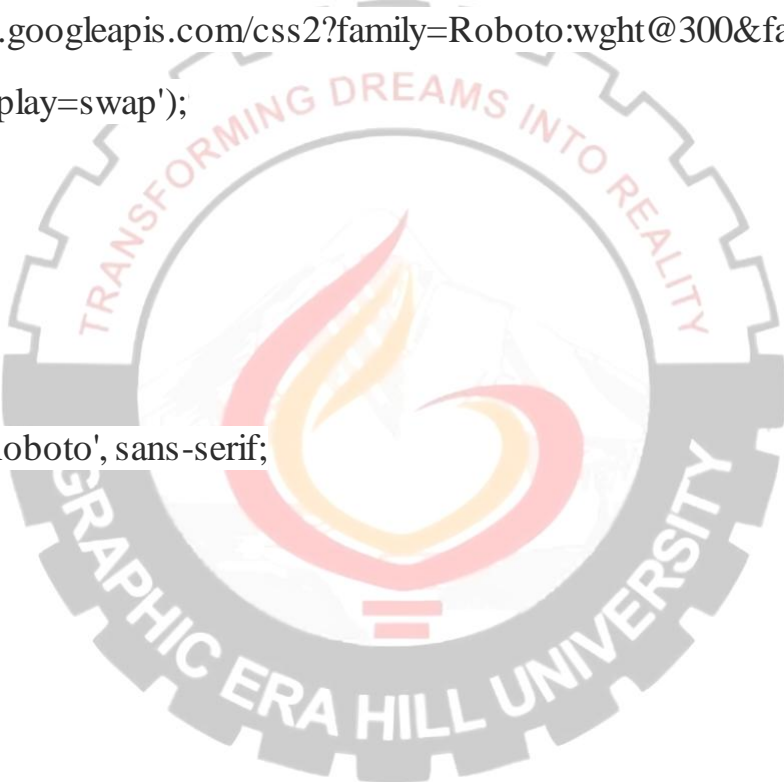
CSS Code

Open the **styles.css** file and paste the following CSS code for the calculator:

```
@import
url('https://fonts.googleapis.com/css2?family=Roboto:wght@300&family=Ubuntu:
wght@300&display=swap');

html, body {
    height: 100%;
    width: 100%;
    font-family: 'Roboto', sans-serif;
}

.button{
    width: 66px;
    padding: 20px;
    margin: 0 3px;
    border: 2px solid black;
    border-radius: 9px;
    cursor: pointer;
```

The logo of Graphic Era Hill University is a circular emblem. It features a central stylized flame or torch in shades of red and orange. The words "TRANSFORMING DREAMS INTO REALITY" are written in a semi-circle above the flame, and "GRAPHIC ERA HILL UNIVERSITY" is written in a semi-circle below it. The entire emblem is set against a background of a grey gear-like border.

```
}
```

```
.row{
```

```
margin: 8px 0;
```

```
}
```

```
.row input{
```

```
width: 291px;
```

```
font-size: 20px;
```

```
margin: 0;
```

```
padding: 10px 0px;
```

```
border: 2px solid black;
```

```
border-radius: 5px;
```

```
}
```

```
Utils.css
```

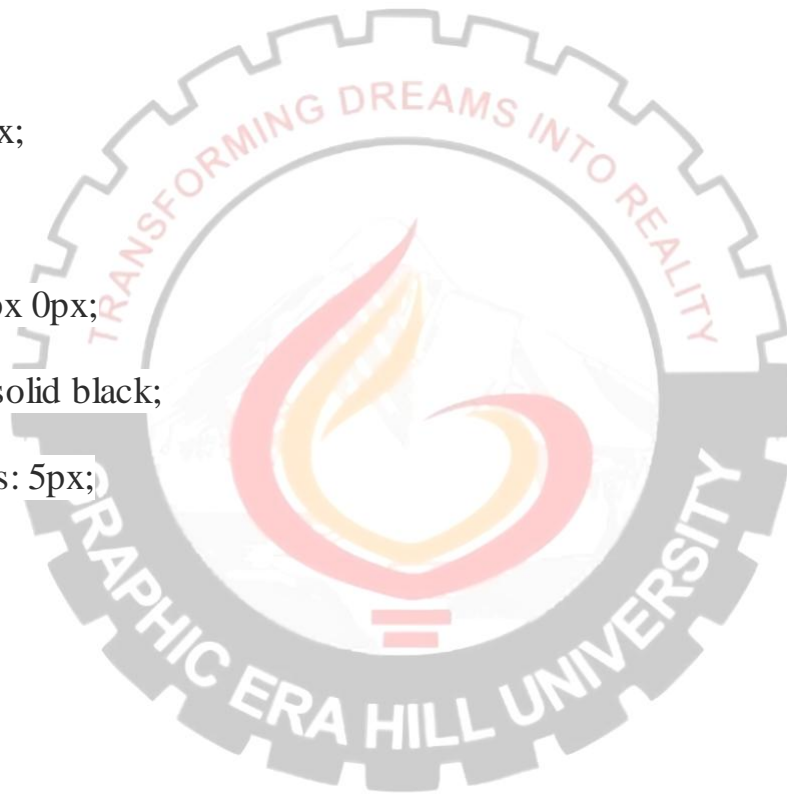
```
.text-center{
```

```
text-align: center;
```

```
}
```

```
.bg-red{
```

```
background: red;
```



```
}
```

```
.mx-auto{  
  margin: auto;  
}
```

```
.flex{  
  display: flex;  
}  
.flex-col{  
  flex-direction: column;  
}
```


```
.items-center{  
  align-items: center;  
}
```



JavaScript Code

Open the **script.js** file and add functionality to the simple calculator using the following JavaScript code:

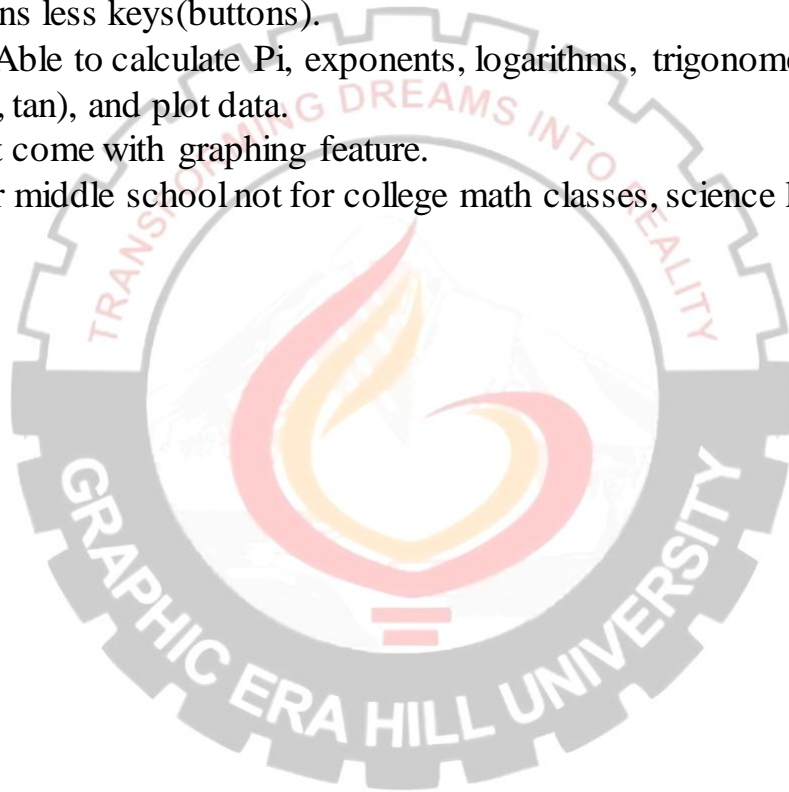
```
let string = "";
let buttons = document.querySelectorAll('.button');
Array.from(buttons).forEach((button)=>{
  button.addEventListener('click', (e)=>{
    if(e.target.innerHTML == '='){
      string = eval(string);
      document.querySelector('input').value = string;
    }
    else if(e.target.innerHTML == 'C'){
      string = ""
      document.querySelector('input').value = string;
    }
    else{
      console.log(e.target)
      string = string + e.target.innerHTML;
      document.querySelector('input').value = string;
    }
  })
})
```

A large, semi-transparent watermark of the Graphic Era Hill University logo is centered in the background. The logo is circular with a gear-like outer border. Inside the circle, there is a stylized flame or sunburst in shades of orange and red. The text "TRANSFORMING DREAMS INTO REALITY" is written in a semi-circle above the flame, and "GRAPHIC ERA HILL UNIVERSITY" is written in a semi-circle below it. At the bottom center of the circle is a small red equals sign.

CHAPTER 5

LIMITATIONS

1. It is not designed for complex equations.
2. It Contains less keys(buttons).
3. It is not Able to calculate Pi, exponents, logarithms, trigonometric symbols (sin, cos, tan), and plot data.
4. Does not come with graphing feature.
5. Great for middle school not for college math classes, science labs, etc.



CHAPTER 6

ENHANCEMENTS

1. **Calculators help kids overcome computational limitations.** Kids often have the conceptual understanding to solve problems that are much more difficult than their computational ability would allow. For example, a student might know they need to divide a 2-digit number by another 2-digit number, but if he or she hasn't mastered this skill, the answer will be out of reach without a calculator. Overcoming computational limitations is especially helpful for special needs students and removes barriers to more advanced levels of math instruction.
2. **Calculators encourage the use of multiple strategies.** Being able to use a calculator frees students to consider and test out a wide variety of problem-solving strategies in a short time. They can solve a problem using one strategy (without or without a calculator), and check their answers using a different strategy.
3. **Calculators help kids solve more problems in less time.** Calculators allow students to work more quickly, which means they can solve more problems in each time. So you can increase the number and complexity of the problems you introduce in each lesson without increasing the time devoted to problem solving lessons.
4. **Calculators promote persistence in problem solving.** As students begin to think more creatively and try different methods, they will experience success with some methods and failure with others. But it's how they feel about those "failures" that's important. I noticed my students were less discouraged when they couldn't solve problems quickly; they tried to figure out why their methods didn't work. Then they adjusted their thinking and tried a different strategy.
5. **Calculators foster a growth mindset.** Educators are starting to realize that praising students for correct answers is not nearly as important as recognizing their struggles along the way. When students can persist and try different strategies to solve challenging problems, they feel a sense of accomplishment and pride in themselves for not giving up which leads to the next benefit.
6. **Calculators promote a positive attitude towards problem solving.** As the saying goes, "Success breeds success," and that's true in math. Using a calculator drastically increases the chance that a student will get the correct answer, and the subsequent feeling of accomplishment promotes a more positive attitude toward the next problem.

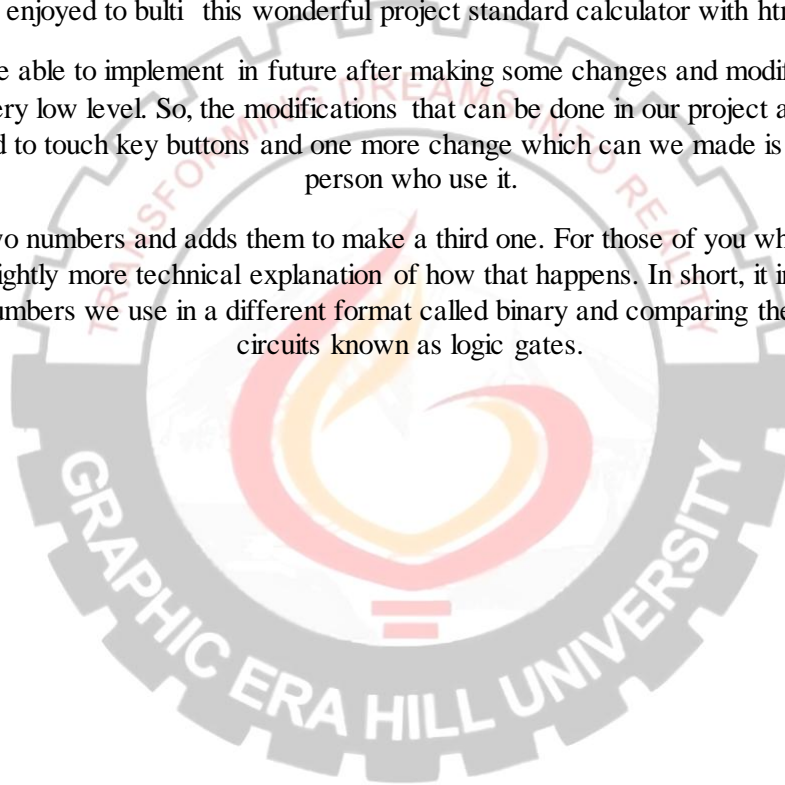
CHAPTER 7

CONCLUSION

We have enjoyed to build this wonderful project standard calculator with html, CSS, JS.

Our project will be able to implement in future after making some changes and modifications as we make our project at a very low level. So, the modifications that can be done in our project are To make it screen touch so no need to touch key buttons and one more change which can we made is to add snaps of the person who use it.

how it takes two numbers and adds them to make a third one. For those of you who'd like a bit more detail, here's a slightly more technical explanation of how that happens. In short, it involves representing the decimal numbers we use in a different format called binary and comparing them with electrical circuits known as logic gates.



REFERENCES

- WWW.Google.com
- www.GFG.com
- www.Youtube.com
- www.stackoverflow.com

