

# MINI PROJECT REPORT

*Submitted by*

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## CERTIFICATE

Certified that this project report titled **“Online Scientific Calculator”** is the bonafide work of **SRIHARISH PK , PRADEEP G , SURIYA PRAKASH S , MANOJ KUMAR S** Who carried out the project under my supervision. Certified further , that to the best of my knowledge the work reported herein does not form part of any other project report.

I understand the policy on plagiarism and declare that the project and publications are my own work, except where specially acknowledged and has not been copied from sources or been previously submitted for award or assessment.

Project Guide

Faculty In-charge

Submitted for the viva-voce examination held on .....

Examiner I

Examiner

## ABSTRACT

To perform a number of calculations in response to user supplied input.

This calculator Users to calculate Simple Calculations with Speed and Accessblity.

Reduces the time complexity.Easily accesible anywhere using internet

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# COMPONENTS OF A CALCULATOR

## BUTTONS:

### Addition:

The addition (sum function) is used by clicking on the "+" button. The function results in adding two or more numbers.

### Subtraction:

The subtraction (minus function) is used by clicking on the "-" button . The function results in Subtracting two number or more numbers.

### Multiplication:

The multiplication (times function) is used by clicking on the "x" button. The function results in multiplying two or more numbers.

### Division:

The division (divide function) is used by clicking on the button . The function results dividing the numbers.

### Factorial:

The Factorial function is used by clicking the "!" button .

### Square:

The square function is used by clicking on the " $x^y$ " button .The function results in  $x*x$ .

### Square root:

The square root function is used by clicking on the "x" button ()". This function represents " $\sqrt{x}$ " where the result squared is equal to x.

### PI:

PI is a mathematical constant of the ratio of a circle's circumference to its diameter.

### Exponent:

The exponent function is represented as "e" in calculator.

**Logarithm:**

The logarithm (log) is used by clicking on the "log" button.

**Trigonometry:**

The trigonometric functions such as sin, cos, tan are represented as "sin", "cos", "tan".

**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.

The following documentation is a project the "Name of the term paper allotted". It is a detailed summary of all the drawbacks of the old system and how the new proposed system overcomes these shortcomings. The new system takes into account the various factors while designing a new system. It keeps into the account the Economical bandwidth available for the new system. The foremost thing that is taken care of is the Need and Requirements of the User.

### **Description:**

Before developing software we keep following things in mind that we can develop powerful and quality software

### **Problem Statement:**

- Problem statement was to design a module:
- Which is user friendly
- Which will restrict the user from accessing other user's data.
- Which will help user in viewing his data and privileges.
- Which will help the administrator to handle all the changes.

### **Functions to be Provided:**

The system will be user friendly and completely menu driven so that the users shall have no problem in using all options.

- The system will be efficient and fast in response.
- The system will be customized according to needs.

## **SYSTEM REQUIREMENTS**

**OPERATING SYSTEM:** Windows 7/8/10.

**LANGUAGE:** HTML,CSS AND JAVASCRIPT

**PROCESSOR:** INTEL i3/i5/i7

**COMPILER:** Eclipse

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## **SOURCE CODE**

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
<head>
```



```
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Nemorphism calci</title>
<link rel="stylesheet" type="text/css"
      href="https://stackpath.bootstrapcdn.com/font-awesome/4.7.0/css/font-
awesome.min.css">
</head>
```

```
<style>
  body {
    padding: 0;
    margin: 0;
    display: flex;
    justify-content: center;
    align-items: center;
    min-height: 100vh;
    user-select: none;
    background: #ecf0f3;
  }

  .container {
    margin-left: 1.8em;
    padding: 20px;
    border-radius: 8px;
    box-shadow: 13px 13px 20px #cbced1,
              -13px -13px 20px #ffffff;
  }

  .content {
    width: 100%;
```

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```
margin-top: 1.7em;
display: flex;
justify-content: center;
align-items: center;
flex-direction: column;
}
```

```
.row button {
```

```

width: 60px;
height: 30px;
font-size: 16px;
border: none;
outline: none;
margin: 5px;
border-radius: 4px;
transition: .1s;
box-shadow: 5px 5px 8px #00000020,
            -5px -5px 8px #ffff;
}

.row button:hover {
    box-shadow: inset 5px 5px 8px rgba(16, 16, 16, .1),
                inset -5px -5px 8px #fff;
    background: #fff;
}

.display #screen {
    margin-bottom: .5em;
    width: auto;
    height: 70px;
    font-size: 35px;
    outline: none;
    border: none;
    text-align: right;

```

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```

padding-right: .5em;
background: #ecf0f3;
border-radius: 6px;
box-shadow: inset 8px 8px 8px #cbced1,
            inset -8px -8px 8px #ffffff;
}

#eval {
    background: #33ccff;
    color: #fff;
    box-shadow: inset 5px 5px 8px #66d9ff,

```

```

    inset -5px -5px 8px #00ace6;
}

#eval:hover {
    box-shadow: inset 5px 5px 8px #00ace6,
        inset -5px -5px 8px #00ace6;
}

#ac {
    background: #33cc33;
    color: #fff;
}

#ac:hover {
    box-shadow: inset 5px 5px 8px #2eb82e,
        inset -5px -5px 8px #33cc33;
}

```

```

#ce {
    background: #ff3399;
    color: #fff;
}

#ce:hover {

```

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```

    box-shadow: inset 5px 5px 8px #e60073,
        inset -5px -5px 8px #ff3399;
}
</style>

<body>

    <div class="container">
        <div class="display">
            <input id="screen" type="text" placeholder="0">
        </div>

        <div class="btns">

```

```

<div class="row">
  <button id="ce" onclick="backspc()">CE</button>
  <button onclick="fact()">x!</button>
  <button class="btn">(</button>
  <button class="btn">)</button>
  <button class="btn">%</button>
  <button id="ac" onclick="screen.value="">AC</button>
</div>

```

```

<div class="row">
  <button onclick="sin()">sin</button>
  <button onclick="pi()"> $\pi$ </button>
  <button class="btn">7</button>
  <button class="btn">8</button>
  <button class="btn">9</button>
  <button class="btn"> $\div$ </button>
</div>

```

```

<div class="row">
  <button onclick="cos()">cos</button>
  <button onclick="log()">log</button>
  <button class="btn">4</button>

```

8

```

  <button class="btn">5</button>
  <button class="btn">6</button>
  <button class="btn">x</button>
</div>

```

```

<div class="row">
  <button onclick="tan()">tan</button>
  <button onclick="sqrt()"> $\sqrt{\phantom{x}}$ </button>
  <button class="btn">1</button>
  <button class="btn">2</button>
  <button class="btn">3</button>
  <button class="btn">-</button>
</div>

```

```

<div class="row">

```

```

        <button onclick="e()">e</button>
        <button onclick="pow()">x <span style="position: relative; bottom: .4em; right:
.1em;">y</span>
        </button>
        <button class="btn">0</button>
        <button class="btn">.</button>
        <button id="eval" onclick="screen.value=eval(screen.value)">=</button>
        <button class="btn">+</button>
    </div>
</div>
</div>
</body>
<script>
    var screen = document.querySelector('#screen');
    var btn = document.querySelectorAll('.btn');
    /*===== For getting the value of btn, Here we use for loop =====*/
    for (item of btn) {
        item.addEventListener('click', (e) => {
            btntext = e.target.innerText;

            if (btntext == 'x') {
                btntext = '*';
            }

            if (btntext == '÷') {
                btntext = '/';
            }
            screen.value += btntext;
        });
    }

    function sin() {
        screen.value = Math.sin(screen.value);
    }

    function cos() {
        screen.value = Math.cos(screen.value);
    }

```

```

}

function tan() {
    screen.value = Math.tan(screen.value);
}

function pow() {
    screen.value = Math.pow(screen.value, 2);
}

function sqrt() {
    screen.value = Math.sqrt(screen.value, 2);
}

function log() {
    screen.value = Math.log(screen.value);
}

```

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```

function pi() {
    screen.value = 3.14159265359;
}

function e() {
    screen.value = 2.71828182846;
}

function fact() {
    var i, num, f;
    f = 1
    num = screen.value;
    for (i = 1; i <= num; i++) {
        f = f * i;
    }

    i = i - 1;

    screen.value = f;
}

```

```
}  
  
function backspc() {  
    screen.value = screen.value.substr(0, screen.value.length - 1);  
}  
</script>  
  
</html>
```

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## PROJECT INTERFACE



## REFERENCES

• Thomas J. Bing, Edward F. Redish, Symbolic Manipulators Affect Mathematical Mindsets, December 2007

\* Mike Sebastian's calculator forensics algorithm is an example of such rounding errors -- the algorithm's  $\arcsin(\arccos(\arctan(\tan(\cos(\sin(9))))))$  should come out 9 on standard floating point hardware, but for CORDIC it's a pathological case that produces different rounding errors on each chip that it is implemented on. The algorithm is primarily used to identify the manufacturer of a particular calculator's CPU, since it is usually reproducible between chips of the same model.

\* Georges Ifrah notes that humans learned to count on their hands. Ifrah shows, for example, a picture of Boethius (who lived 480-524 or 525) reckoning on his fingers in Ifrah 2000, p. 48.

\* According to Schmandt-Besserat 1981, these clay containers contained tokens, the total of which were the count of objects being transferred. The containers thus served as a bill of lading or an accounts book. In order to avoid breaking open the containers, marks were placed on the outside of the containers, for the count. Eventually (Schmandt-Besserat estimates it took 4000 years) the marks on the outside of the containers were all that were needed to convey the count, and the clay containers evolved into clay tablets with marks for the count.

\* Lazos 1994

\* Ancient Discoveries, Episode 11: Ancient Robots, History Channel,



<http://www.youtube.com/watch?v=rxjbaQl0ad8>, retrieved on 6 September 2008

\* A Spanish implementation of Napier's bones (1617), is documented in Montaner i Simon 1887, pp. 19-20.

\* Kells, Kern & Bland 1943, p. 92

\* Kells, Kern & Bland 1943, p. 82, as  $\log(2) = .3010$ , or 4 places.

\* Schmidhuber

\* As quoted in Smith 1929, pp. 180-181