BHUBANANANDA ORISSA SCHOOL OF ENGINEERING, CUTTACK

DEPARTMENT OF CSE AND IT

PROJECT REPORT

ON

"CALQFY"

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ACKNOWLEDGEMENT

We would like to express our sincere gratitude to those who helped us to complete this project report on the “CalQfy" website. I would like to express my sincere thanks and gratitude to my (Subject) teacher for letting me work on this project and providing their enduring patience, guidance & invaluable suggestions. They were the ones who never let our morale & always supported us through thick & thin. They were the constant source of inspiration for us & took an utmost interest in our project. We are also thankful to all the students for giving us their use advice & immense cooperation. Their support made the working of this project very pleasant.

SUBMITTED BY:-
Raj Palmal (Leader)
Pupun ku Patra
Akash Mandal
Aishwarya Mohapatra
Ankita Senapati

CERTIFICATE

This is to, certify that the project report entitled "**CalQfy**" submitted by our project team "**Group 11**" in partial fulfilment of the requirement for the final year project diploma in the department of Computer Science and Engg of Bhubananda Orissa School of Engineering, is a record of candidates' own work carried out by them under my supervision.

Signature of the HOD

NAME: R.C. Sahoo

HEAD OF THE DEPARTMENT

Signature of the HOD

NAME: Mrs. D.Susmita

SUPERVISOR

DECLARATION

We hereby declare that this submission is our own work and that, to the best of our knowledge and belief, it contains some materials which were previously written by any other personal which to a substantial extent have been accepted for the final year project of any other institution of higher learning,and also Whenever we have used materials (data, theoretical analysis, and text) from other sources, we have given due credit to them in the text of the report and giving their details in the references. except where due acknowledgment has been made in the test.

Signature of HOD (CSE)

Signature of HOD (IT)

ABSTRACT

"**CalQfy**" is a simple Website aimed to provide fast, comprehensive, convenient, free online calculators in a plethora of areas to help you "do the maths" quickly in areas.. Additionally, we believe the internet should be a source of free information. Therefore, all the tools and services are completely free, with no registration required.

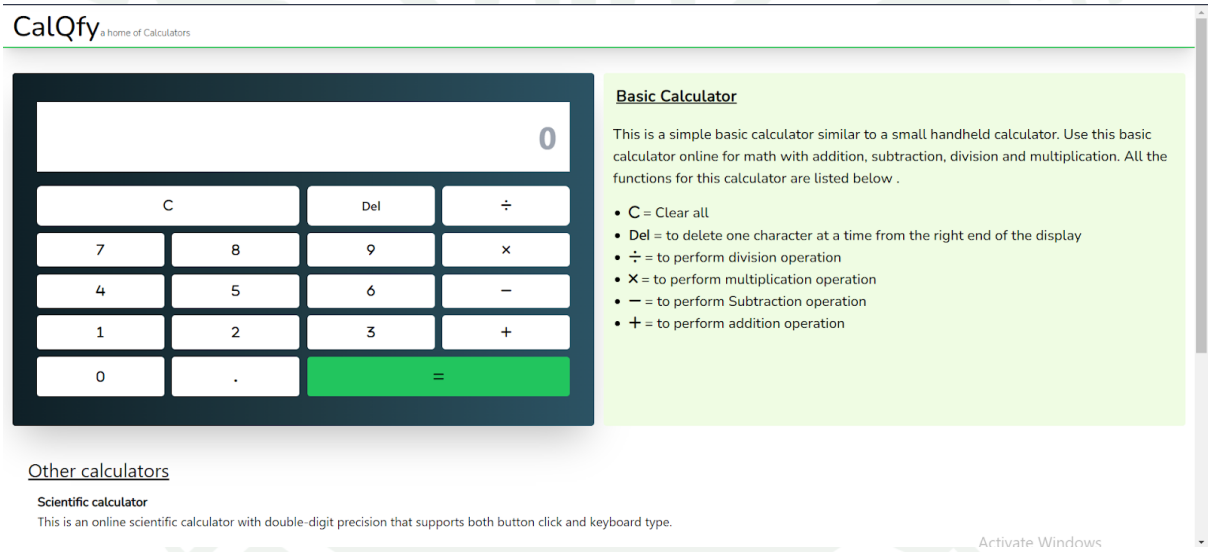
INTRODUCTION

Students of this generation rely on technology to update themselves on a regular basis.Giving them a seamless experience of transitioning from the real to the digital world and Vice Versa is imperative so, This website is fully focused on providing fast, comprehensive, convenient, free online calculators in a plethora of areas to help you "do the maths" quickly in areas… Additionally, we believe the internet should be a source of free information, this CalQfy website is developed using Html, Tailwind css, Css, & JavaScript. Calqfy is the solution to find different mathematical solutions for now it contains 4 types of calculator :-

- Basic Calculator
- Scientific Calculator
- Age Calculator
- Percentage Calculator

1. BASIC CALCULATOR:

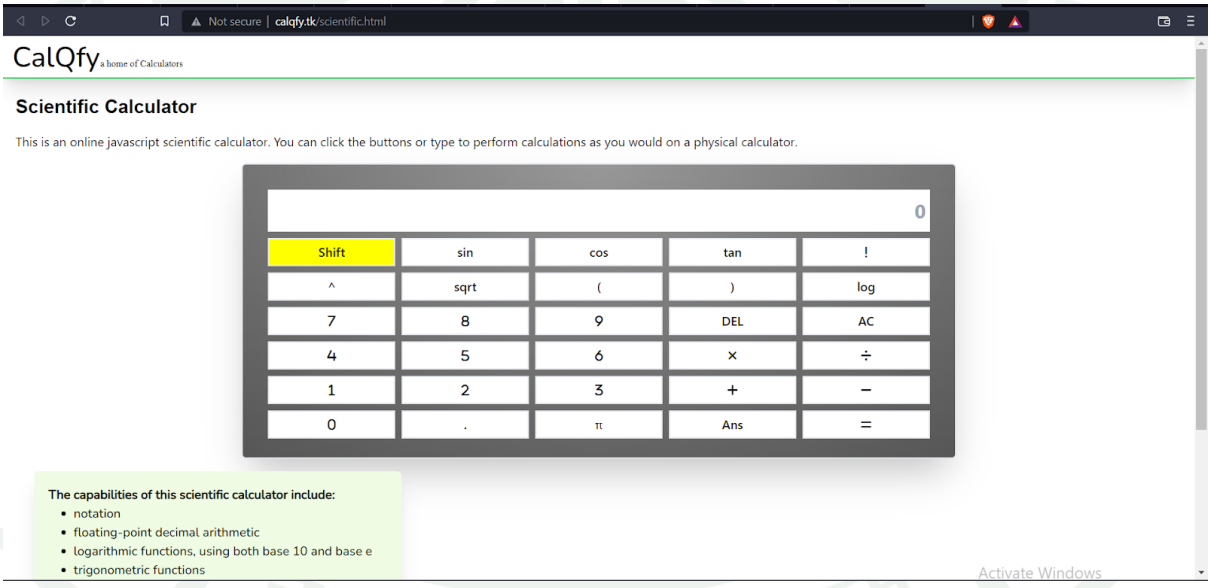
This is a simple basic calculator that focuses on calculating simple maths similar to a small handheld calculator. The Capability of the basic calculator is to do online maths with addition, subtraction, division, and multiplication operations . This calculator is not so advanced, It is mainly for normal small calculations.



2. SCIENTIFIC CALCULATOR:

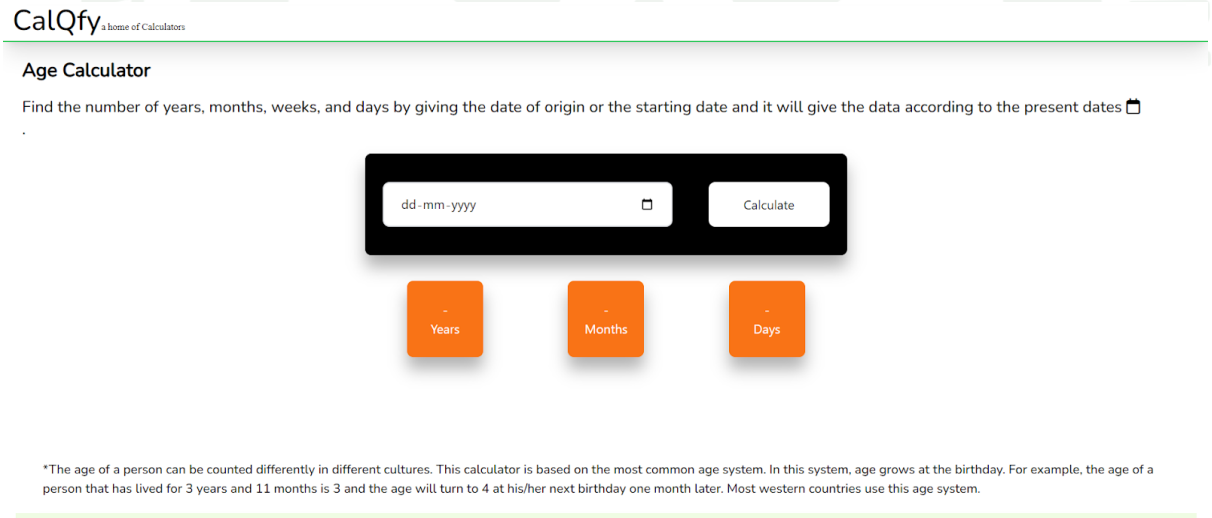
It is an online scientific calculator with advanced features.Is very helpful for more advanced mathematical problems and also it is more advanced than our Basic Calculator. this scientific calculator include:-

- Notation
- floating-point decimal arithmetic
- logarithmic function,using both base 10 and base e
- trigonometric function
- exponential functions and roots beyond e square root



3. Age Calculator:-

It is an advanced calculator that can tell the difference between a starting age given by the user and it will automatically give the difference with the present date by itself In the form of “YEARS, MONTH, & DAYs”. Is very handy for finding out the age of persons with their Date-of-Birth.



4. Percentage Calculator:-

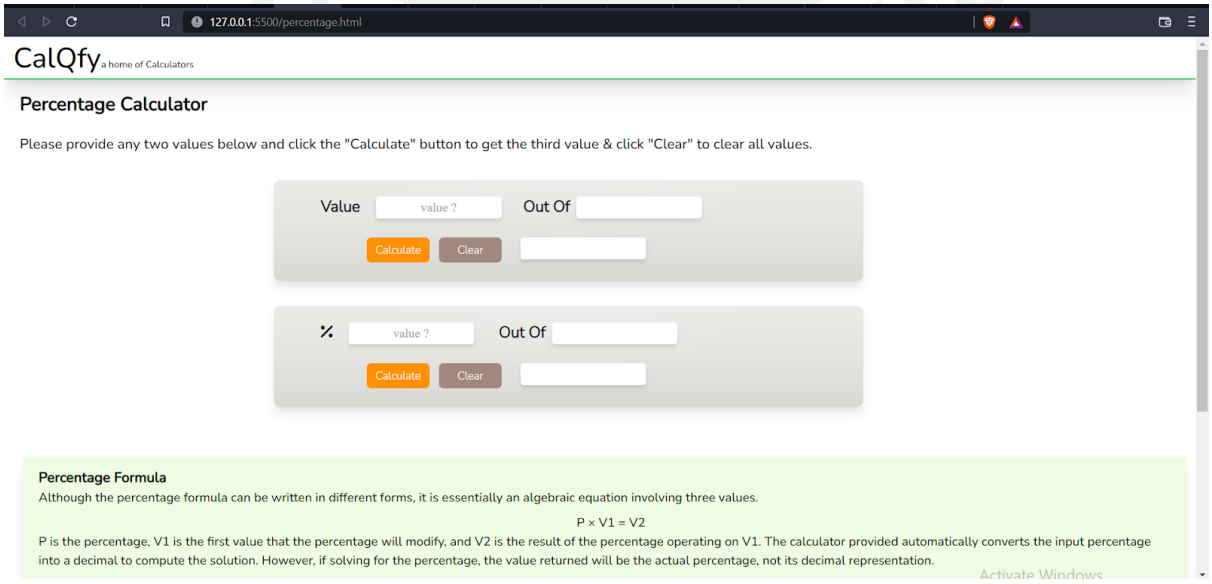
This is a calculator that can give percentages by taking inputs from the user and also give the value from a percentage by Following the formula :-

Percentage formula -

P × V1 = V2 P is the percentage, V1 is the first value that the percentage will modify, and V2 is the result of the percentage operating on V1. The calculator provided automatically converts the input percentage into a decimal to compute the solution. However, if solving for the percentage, the value returned will be the actual percentage, not its decimal representation. EX: P × 30 = 1.5 P = 1.5/30 = 0.05 × 100 = 5%.

Percentage Difference Formula -

The percentage difference between two values is calculated by dividing the absolute value of the difference between two numbers by the average of those two numbers. Multiplying the result by 100 will yield the solution in percent, rather than decimal form. Refer to the e The equation below for clarification. Percentage Difference =|V1 - V2|/ (V1 + V2)/2 × 100 EX: |10 - 6| / (10 + 6)/2 = 48 = 0.5 = 50%.



a. Purpose:

This Website Aims to provide fast, comprehensive, convenient, free online calculators in a plethora of areas to help you "do the maths" quickly in areas… Additionally, we believe the internet should be a source of free information. Therefore, all the tools and services are completely free, with no registration required.

b. Scope:

Calculators have a wide scope of applications, being useful in many fields like science, technology, accounting, marketing, education, finances, etc. Their accessibility depends on the user’s understanding of basic mathematical concepts such as addition, subtraction, multiplication, division, etc.

Scientific calculators require a more advanced level of understanding from the user for their scientific functions.

SYSTEM ANALYSIS

a. Existing System:-

Systems analysis is the process by which an individual (s) studies a system such that an information system can be analysed, modelled, and a logical alternative can be chosen. Systems analysis projects are initiated for three reasons: problems, opportunities, and directives after the website is studied thoroughly then the proposed system should be analysed thoroughly in accordance with the needs .

During analysis, on various files, decision points are handled by the present system.The commonly used tools in the system etc and training experience and common sense are required for collection of relevant information needed to develop the system .The success of the system depends largely on how clearly the problem is defined , thoroughly investigated and properly carried out through the choice of solution . A good analysis model should provide not only the mechanisms of problem understanding but also the framework of the solution.

System analysis can be categorised into four parts:-

- System Planning and Initial Investigation
- Information Gathering
- Applying analysis tools for structured analysis
- Feasibility study
- Cost/Benefit analysis

b. Proposed System:

Our proposed system can deal with different calculative problems and it is very simple so that the user can use it seamlessly. The UI is very simple and easy to understand so that the user can use it at its best and the website is also fast to access so the the user can have a good experience, the website has very less no. of bugs and errors which is very negligible, with the use of vanilla Js the website can be access in different browsers. The system can be accessed by everyone.It doesn't require any registration or any authentication .

Our Proposed system has several advantage :-

- User friendly interface
- Fast Access
- Less error
- Look and free Environment
- Quick results

C. Feasibility Analysis :-

A feasibility study is an analysis that considers all of a project's relevant factors including economic, technical, legal, and scheduling considerations to ascertain the likelihood of completing the project successfully. Feasibility is the study of impact, which happens in the organisation by the development of a system.The impact can be either positive or negative . when the positives eliminate the negatives, then the system is considered feasible. Here the feasibility study can be performed in two ways such as technical Feasibility and economic Feasibility.

I. Technical Feasibility:-

We can strongly say that it is technically feasible, since there will not be much difficulty in getting required resources for the development and maintaining the system as well. All the resources needed for the development of the software as well as the maintenance of the same is available in the organisation here we are utilising the resources which are available already.

II. Economical Feasibility:

Development of this application is highly economically feasible .The organisation need not spend much money on the development of this Website.The only thing to be done is to make an environment for the development with effective supervision.If we are doing so, we can attain the maximum usability of the corresponding resources.Even after the development, the organisation will not be in a condition to invest more in the organisation. Therefore, the system is economically feasible .

TECHNOLOGY OVERVIEW

Technology selected for implemented for CalQfy website is HTML - For the structural part of the website, Tailwind CSS&CSS- for the designing part of the website, JavaScript- for adding the functions in the calculators and both for the website, GitHUB and Git tool - for version controlling and Hosting the Repository of the website, Npm- for package managing and node.JS .The development was done in Windows environment using Visual Studio Code.

a. HTML

HTML, or HyperText Markup Language, allows web users to create and structure sections, paragraphs, and links using elements, tags, and attributes. However, it's worth noting that HTML is not considered a programming language as it can't create dynamic functionality.

Some important Features :

- HTML is the standard markup language for creating Web pages
- HTML describes the structure of a Web page
- HTML consists of a series of elements
- HTML elements tell the browser how to display the content

b. CSS & Tailwind CSS

- CSS

Cascading Style Sheets, fondly referred to as CSS, is a simple design language intended to simplify the process of making web pages presentable.

CSS handles the look and feel part of a web page. Using CSS, you can control the colour of the text, the style of fonts, the spacing between paragraphs, how columns are sized and laid out, what background images or colours are used, layout designs,variations in display for different devices and screen sizes as well as a variety of other effects.

Some important Features :

- CSS describes how HTML elements are to be displayed on screen, paper, or in other media
- CSS saves a lot of work. It can control the layout of multiple web pages all at once
- External stylesheets are stored in CSS files

- Tailwind CSS

Tailwind is a utility-first CSS framework. In contrast to other CSS frameworks like Bootstrap or Materialise CSS it doesn’t come with predefined components. Instead Tailwind CSS operates on a lower level and provides you with a set of CSS helper classes. By using these classes you can rapidly create custom designs with ease. Tailwind CSS is not opinionated and lets you create your own unique design.

Tailwind CSS works by scanning all of your HTML files, JavaScript components, and any other templates for class names, generating the corresponding styles and then writing them to a static CSS file.

It's fast, flexible, and reliable — with zero-runtime.

C. Javascript

JavaScript is a text-based, object-oriented programming language used to make web pages and apps more dynamic and interactive for visitors.

Used on both the client and server side, JavaScript offers enhanced abilities that basic languages like HTML and CSS can't, such as refreshing a Twitter feed, embedded YouTube videos, and more. In other words, JavaScript-enhanced web pages are more dynamic and user-focused, which can keep users coming back to the site.

d. GIT & GITHUB

- GIT

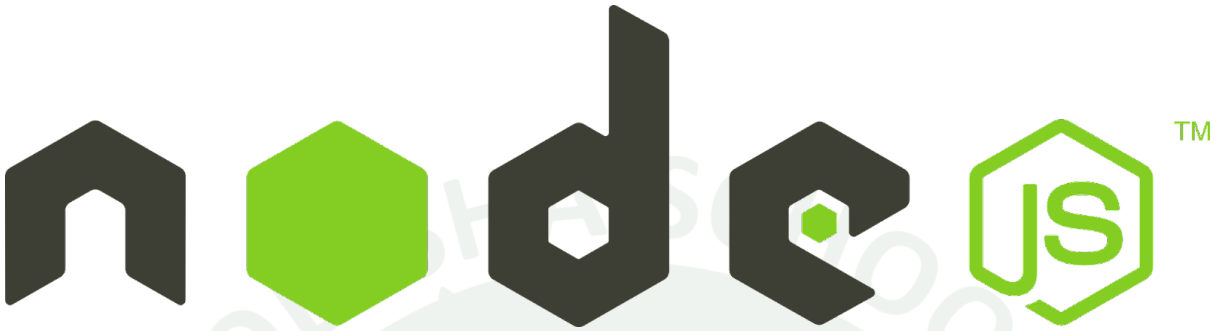
Git is a free and open source distributed version control system designed to handle everything from small to very large projects with speed and efficiency. Git is software for tracking changes in any set of files, usually used for coordinating work among programmers collaboratively developing source code during software development.

- GITHUB

GitHub is a website and cloud-based service that helps developers store and manage their code, as well as track and control changes to their code. It offers the distributed version control and source code management (SCM) functionality of Git, plus its own features. To understand exactly what GitHub is, you need to know two connected principles:

- Version control
- Git

e. Node.JS



Node.js is an open-source, cross-platform, back-end JavaScript runtime environment that runs on the V8 engine and executes JavaScript code outside a web browser. Node.js lets developers use JavaScript to write command line tools and for server-side scripting running scripts server-side to produce dynamic web page content before the page is sent to the user's web browser.

Consequently, Node.js represents a "JavaScript everywhere" paradigm, unifying web-application development around a single programming language, rather than different languages for server-side and client-side scripts.

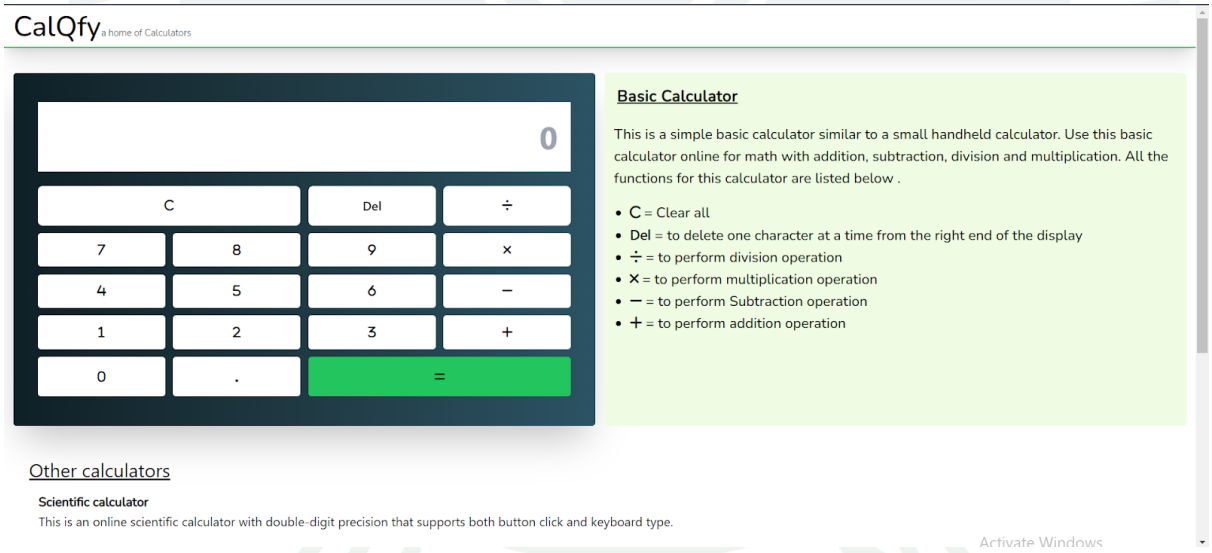
f. NPM

npm (originally short for Node Package Manager)[4] is a package manager for the JavaScript programming language maintained by npm, Inc. npm is the default package manager for the JavaScript runtime environment Node.js. It consists of a command line client, also called npm, and an online database of public and paid-for private packages, called the npm registry.

PROJECT DESCRIPTION

So,CalQfy is a simple Website aimed to provide fast, comprehensive, convenient, free online calculators in a plethora of areas to help you "do the maths" quickly in areas.. Additionally, we believe the internet should be a source of free information. Therefore, all the tools and services are completely free, with no registration required.

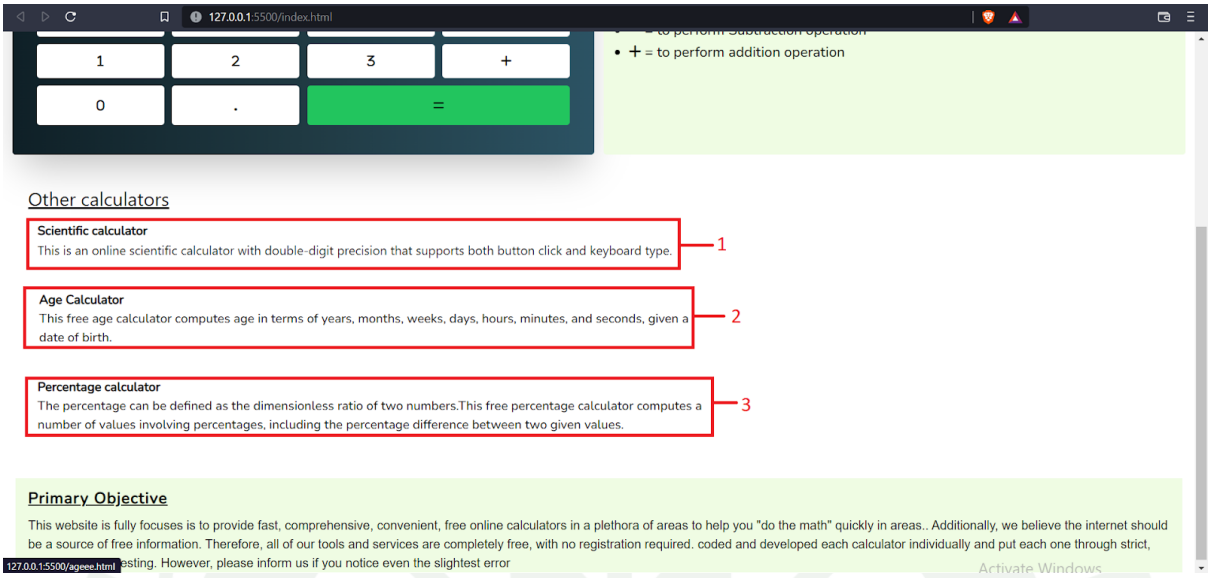
So, the landing page of the website contains of the Basic Calculator And the redirection links to other calculators shown in the figure below:-



This is the Landing Page which contains the Basic Calculator.

Basic Calculator

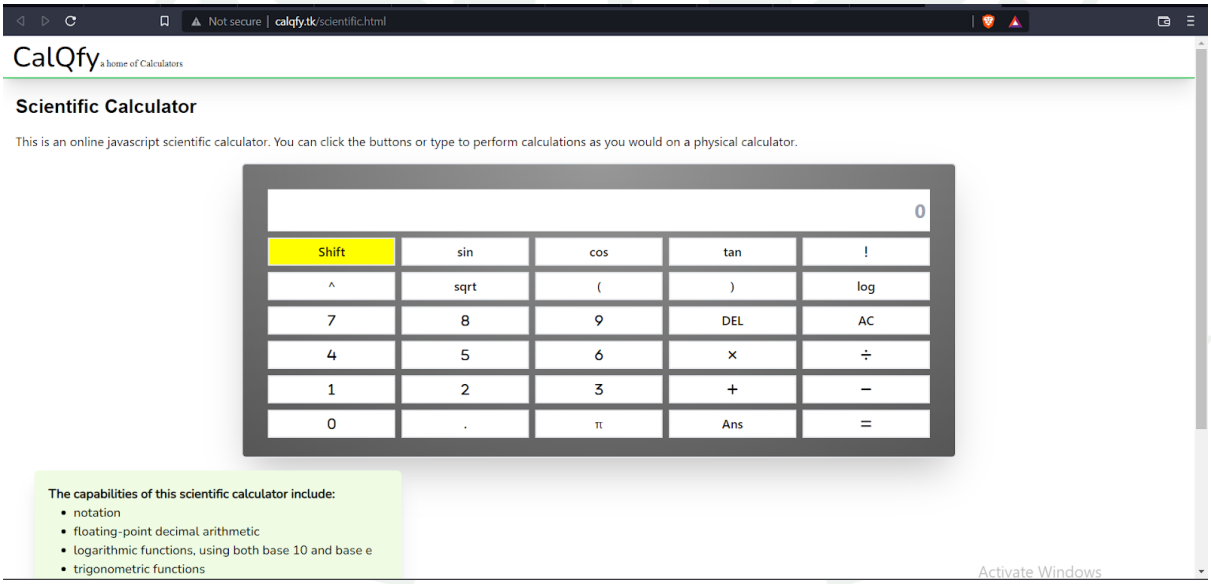
This is a simple basic calculator similar to a small handheld calculator. Use this basic calculator online for maths with addition, subtraction, division, and multiplication.



The 3 highlighted boxes below the Basic calculator contain the redirection link in the form of hypertext .

Box 1-

It is the link to the Scientific Calculator. If the user click on to it then it will redirect the user to a new page which contains the Scientific Calculator given in the figure below:-

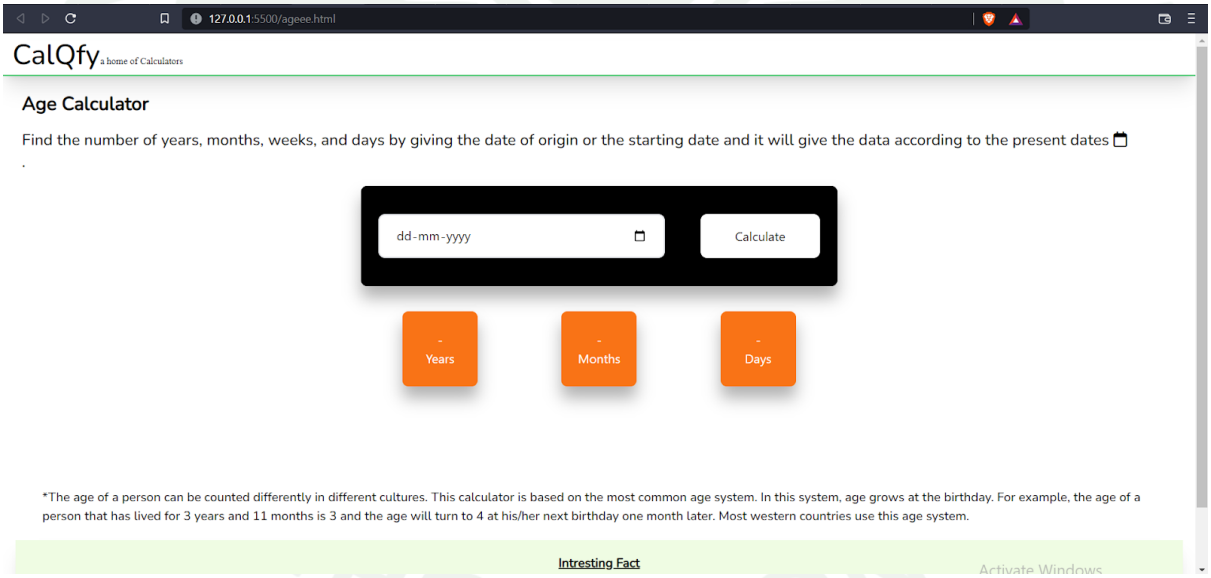


Scientific Calculator

This scientific calculator has advanced features and capability than the Basic calculator it has the capability for evaluating floating-point decimal arithmetic,logarithmic function,using both base 10 and base e ,trigonometric function,exponential functions and roots beyond e square root,quick access to constants such as pi and e

Box 2

It is the link to the Age Calculator. If the user click on to it then it will redirect the user to a new page which contains the AgeCalculator given in the figure below:-

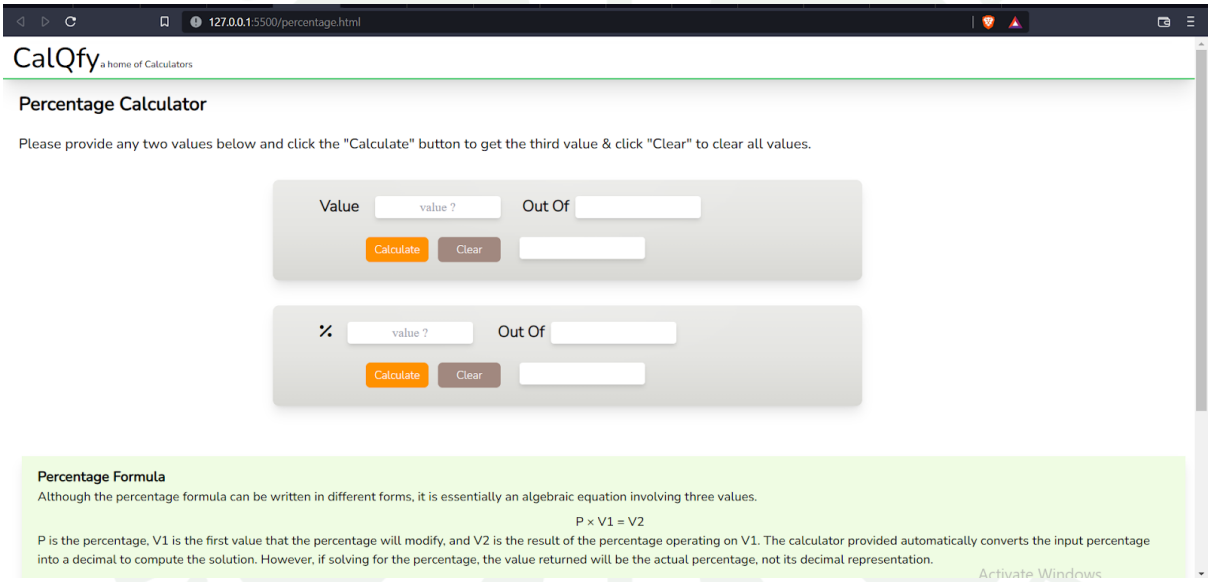


AGE CALCULATOR

It is an advanced calculator that can tell the difference between a starting age given by the user and it will automatically give the difference with the present date by itself In the form of “YEARS, MONTH, & DAYs”. Is very handy for finding out the age of any person.

BOX 3

It is the link to the Percentage Calculator. If the user click on to it then it will redirect the user to a new page which contains the Percentage Calculator given in the figure below:-



Percentage Calculator

This percentage calculator computes a number of values involving percentages, including the percentage difference between two given values.

CONCLUSION

So at the very end we hope that the "**CalQfy**" website could solve maths's calculation problems for the user in a faster and efficient way without any errors, bugs, glitches, registration or authentication and through the internet anyone could access the website .

This website is implemented using **HTML, JAVASCRIPT, CSS, TAILWIND CSS**(a css framework) as a programming language.
This website is hosted through **GITHUB** which is an open source and website and cloud-based service

We also aimed to add more features and more advance and more variety of calculators in future .

TEAM CONTRIBUTION IN THE PROJECT

CalQfy leads to a better organisation structure since the calculators are well structured and organised that leads to efficient utilisation of resources.

CalQfy should be very useful to the students to find the correct answer for there problem effortlessly.

Our project CalQfy was developed by all members of our project group. We, a team of five students from both CSE and IT, took a step by step approach in order to reach our goal. We applied the knowledge we gained during our college classes, online courses and developed this project "CalQfy .

We are proud to have below fellows as our team members:

1. NAME: **Raj Palmal** (Leader)
   Branch: CSE
   Regd No. :F19001003025
2. NAME: **Pupun ku Patra**
   Branch: IT
   Regd No. :F19001024011
3. NAME: **Akash Mandal**
   Branch: CSE
   Regd No. :F19001007004
4. NAME: **Aishwarya Mohapatra**
   Branch: IT
   Regd No. :F19001024003
5. NAME: **Ankita Senapati**
   Branch: IT
   Regd No. :F19001024004

BIBLIOGRAPHY

We did have to read some blog posts and research in order to finish the project.
Those are listed below:

- https://tailwindcss.com/docs/installation
- https://stackoverflow.com
- https://developer.mozilla.org/
- https://www.w3schools.com/
- https://uigradients.com/
- https://www.youtube.com/

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