PARTICIPANTS IN THE APP DEVELOPMENT.

NAMES	REG NO:
MUTHEE DUNCAN CHERUIYOT	CT101/G/16054/22
MUHIA HOSEA KAMAU	CT101/G/8387/20
JESSE KARIUKI	CT101/G/16713/22
FREDRICK KANYUGO	CT101/16011/22
ALEXANDER MWANGI KINYUA	CT101/G/12386/21
SHEILA MUNGAI NJERI	CT101/G/15999/22
Vincent Okemw	CT101/G/15991/22

Number systems converter documentation

1. introduction

Welcome to the number system converter, a powerful application developed by Duncan Cheruiyot Muthee, Muhia Hosea Kamau, Alexander Mwangi Kinyua, Jesse Kariuki, Fredrick Kanyugo, and Sheila Mungai Njeri. This application is designed to simplify the process of converting numbers between different number systems. whether you're a student, a mathematician, or simply someone interested in number systems, this tool will help you effortlessly convert numbers to and from the four main number systems: binary, octal, hexadecimal, and decimal.

Understanding and working with different number systems can often be a complex task. However, with the Number System Converter, you can easily convert numbers from one number system to another with just a few simple steps. This application provides a user-friendly interface and robust conversion algorithms, making it accessible and efficient for users of all levels of expertise.

By utilizing the Number System Converter, you can explore the intricacies of number systems and perform accurate conversions in a matter of seconds. Whether you need to convert binary to decimal, decimal to hexadecimal, octal to binary, or any other combination, this application has you covered.

This documentation will guide you through the installation and setup process, explain the functionalities and features of the Number System Converter, and provide step-by-step instructions on how to perform number conversions. It will also address common questions, troubleshoot potential issues, and provide helpful examples to enhance your understanding.

We hope that the Number System Converter proves to be a valuable tool in your endeavors involving number systems. Enjoy the simplicity and efficiency it brings to number conversions, and feel free to provide feedback or reach out to our support team with any questions or suggestions.

Thank you for choosing the Number System Converter, and let's embark on a journey of seamless number system conversions together!

2.Setup and Installation:

To access the Number System Converter application, simply open a web browser and enter the following URL: Number System Converter. No installation is required since it is a web-based tool. Once you've entered the URL, wait for the website to load in your browser.

The Number System Converter website has a user-friendly interface that allows you to convert numbers between decimal, binary, octal, and hexadecimal number systems. To perform conversions, enter a number in any of the input fields representing the desired number system. The converted values will automatically appear in the remaining number system fields. You can explore additional functionalities and settings to enhance your experience.

Please ensure you have an active internet connection while using the Number System Converter, as it relies on online resources to perform the conversions. Enjoy the ease and convenience of converting numbers between different number systems using this web application. If you encounter any issues or have questions, consult the documentation or contact the developer for assistance.

3.user interface

The Number System Converter app provides a user-friendly interface for converting numbers between different number systems. With its visually appealing matrix effect in the background, the app offers an engaging experience. The user interface is designed to instantly convert numbers entered into the corresponding number systems without the need for manual button presses.

Components of the User Interface:

a. Matrix Background:

The app features a dynamic matrix effect as the background, creating a visually captivating environment for the user.

b. Number Input Fields:

The main interaction component of the user interface is the number of input fields. These fields allow users to enter numbers they wish to convert. The input fields are designed to accommodate different number systems, including decimal, binary, octal, and hexadecimal.

c. Automatic Conversion:

As soon as users enter a number in any of the input fields, the app automatically converts it to the other number systems in real time. There is no need for users to manually trigger the conversion process.

d. Result Display:

The app displays the converted numbers in their respective output fields, providing instant feedback to the user. The output fields are organized in a clear and intuitive manner.

e. Navigation Bar:

The app includes a navigation bar at the top, allowing users to access other sections or features of the app. The navigation bar may include options such as "Home," "About," "Settings," or any other relevant sections.

Layout:

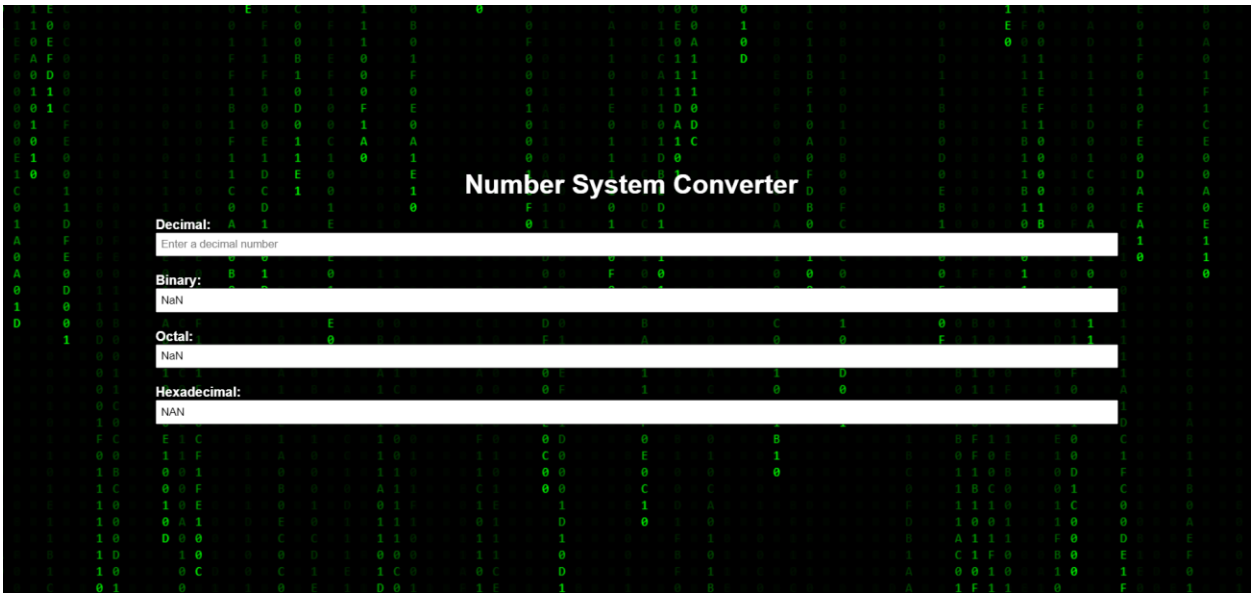
The user interface is designed with a clean and organized layout to enhance usability. The matrix effect occupies the background, while the number input fields and their corresponding output fields are displayed in a structured manner. The navigation bar is positioned at the top, providing easy access to different sections of the app.

Navigation:

The app follows a straightforward navigation flow. Users can interact with the number input fields directly, inputting the numbers they want to convert. The app then instantly converts the numbers and displays the results in the respective output fields. Users can also use the clear button to reset the fields and initiate a new conversion.

Overall, the user interface of the Number System Converter app combines visual appeal with efficient functionality. The matrix background effect creates an engaging environment, while the automatic conversion feature eliminates the need for manual button presses, enhancing the user experience.

Here is an image of the application.



4. conversion functionality.

The conversion logic is made in javascript since the application is a web-based application here is an example of the conversion logic In javascript.

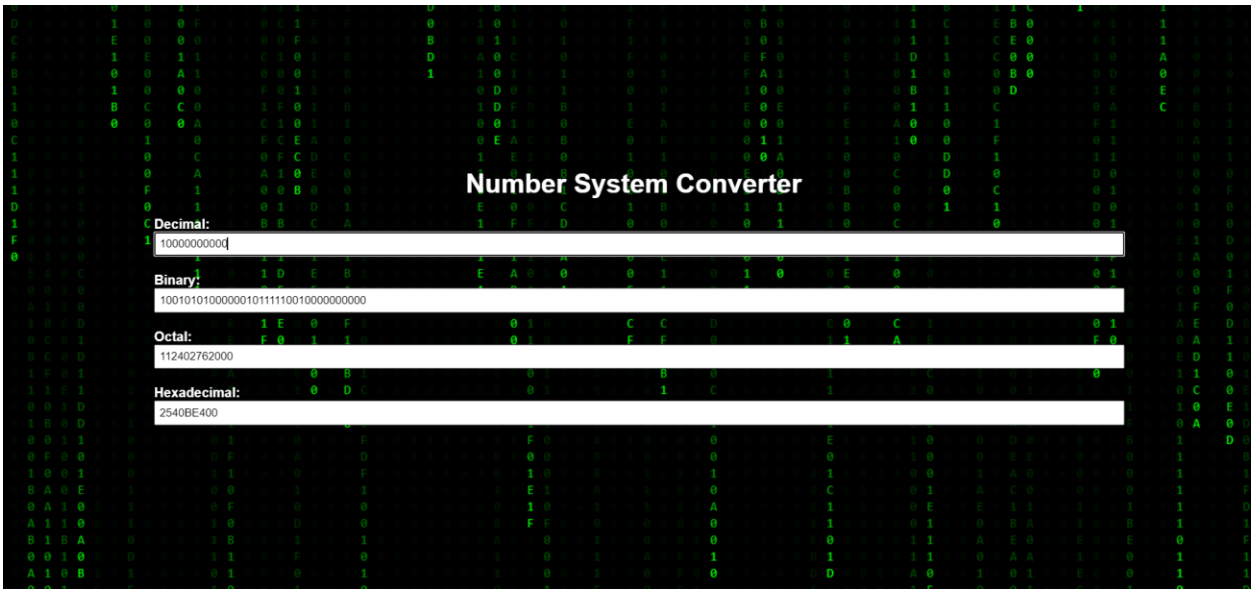
```
function convertDecimalToOthers() {
    const decimalValue = document.getElementById('decimalInput').value;

    const binaryValue = parseInt(decimalValue, 10).toString(2);
    const octalValue = parseInt(decimalValue, 10).toString(8);
    const hexadecimalValue = parseInt(decimalValue, 10).toString(16).toUpperCase();

    document.getElementById('binaryInput').value = binaryValue || '';
    document.getElementById('octalInput').value = octalValue || '';
    document.getElementById('hexadecimalInput').value = hexadecimalValue || '';
  }

  function convertBinaryToOthers() {
```

```
  const binaryValue = document.getElementById('binaryInput').value;

  const decimalValue = parseInt(binaryValue, 2).toString(10);
  const octalValue = parseInt(binaryValue, 2).toString(8);
  const hexadecimalValue = parseInt(binaryValue, 2).toString(16).toUpperCase();

  document.getElementById('decimalInput').value = decimalValue || '';
  document.getElementById('octalInput').value = octalValue || '';
  document.getElementById('hexadecimalInput').value = hexadecimalValue || '';
}

function convertOctalToOthers() {
  const octalValue = document.getElementById('octalInput').value;

  const decimalValue = parseInt(octalValue, 8).toString(10);
  const binaryValue = parseInt(octalValue, 8).toString(2);
  const hexadecimalValue = parseInt(octalValue, 8).toString(16).toUpperCase();

  document.getElementById('decimalInput').value = decimalValue || '';
  document.getElementById('binaryInput').value = binaryValue || '';
  document.getElementById('hexadecimalInput').value = hexadecimalValue || '';
}

function convertHexadecimalToOthers() {
  const hexadecimalValue = document.getElementById('hexadecimalInput').value;

  const decimalValue = parseInt(hexadecimalValue, 16).toString(10);
  const binaryValue = parseInt(hexadecimalValue, 16).toString(2);
  const octalValue = parseInt(hexadecimalValue, 16).toString(8);
```

```
    document.getElementById('decimalInput').value = decimalValue || '';
    document.getElementById('binaryInput').value = binaryValue || '';
    document.getElementById('octalInput').value = octalValue || '';
  }

  const decimalInput = document.getElementById('decimalInput');
  decimalInput.addEventListener('input', convertDecimalToOthers);

  const binaryInput = document.getElementById('binaryInput');
  binaryInput.addEventListener('input', convertBinaryToOthers);

  const octalInput = document.getElementById('octalInput');
  octalInput.addEventListener('input', convertOctalToOthers);

  const hexadecimalInput = document.getElementById('hexadecimalInput');
  hexadecimalInput.addEventListener('input', convertHexadecimalToOthers);
```

5. usage examples.

In this example, we input the decimal number 100000000.. and all conversions are made to the corresponding number systems.



6. version history

this is the first version of the application. We have set strategies on how to increase its functionality soon and gradually to provide our users with the best experience of the application.

App version 1.0.0

Supported Android version Android 12 and above.

7. contacts

Reach us at the official email address at mutheeduncancheruiyot29@gmail.com

8. WEBSITE

VISIT THE WEBSITE AT https://duncan029.github.io/.github.io/ IN ANY DEVICE.
https://duncan029.github.io/.github.io/