

INTRODUCTION

The code presented here is a web-based implementation of the Caesar Cipher, a simple encryption technique used to encrypt and decrypt files. The web page provides a user interface with two tabs, "Encrypt" and "Decrypt," allowing users to perform encryption and decryption operations on files. In the "Encrypt" tab, users can select a file, and the code uses the Caesar cipher with a shift of 7 to encrypt its contents. The encrypted file can then be downloaded. In the "Decrypt" tab, users can select an encoded file and decrypt it using the same Caesar cipher with a shift of 7, displaying the decrypted message on the page.

The code utilizes JavaScript functions to handle the file encryption and decryption processes. When a file is selected for encryption, the FileReader object is used to read its contents. The message is then encrypted using the Caesar cipher with a shift of 7, and a download link is provided for the encrypted file. For file decryption, the selected encoded file is read using the FileReader object, and the encoded message is decrypted using the Caesar cipher with the same shift of 7. The decrypted message is displayed on the page.

Overall, this code offers a straightforward web-based interface for users to encrypt and decrypt files using the Caesar Cipher algorithm. It demonstrates the encryption and decryption processes, making it easy to secure sensitive information or retrieve encrypted data with a simple shift-based encryption technique.

HOW TO USE THE SYSTEM

To use the Caesar Cipher application provided by the code, follow these steps:

Open the web page containing the code in a web browser.

The page will display two tabs: "Encrypt" and "Decrypt." Choose the appropriate tab based on whether you want to encrypt or decrypt a file.

Encrypting a file:

1. In the "Encrypt" tab, click the "Choose File" or "Browse" button to select the file you want to encrypt.
2. Once you've selected the file, click the "ENCRYPT THE FILE" button.
3. The code will encrypt the file's contents using the Caesar cipher with a shift of 7.
4. After encryption, a download link labeled "DOWNLOAD ENCRYPTED FILE" will appear. Click on this link to download the encrypted file.

Decrypting a file:

1. In the "Decrypt" tab, click the "Choose File" or "Browse" button to select the encoded file you want to decrypt.
2. Once you've selected the file, click the "Decrypt File" button.
3. The code will decrypt the encoded message in the file using the Caesar cipher with a shift of 7.
4. The decrypted message will be displayed in the designated output area below the decryption button.

By following these steps, you can utilize the Caesar Cipher application to encrypt and decrypt files using the provided web-based interface.

METHOD AND ALGORITHM USED

The Caesar Cipher algorithm is used in the application for both encryption and decryption processes. The Caesar Cipher is a substitution cipher that replaces each letter in the message with a letter shifted by a fixed number of positions. In this application, the shift value is set to 7.

The encryption process involves shifting each letter in the message by 7 positions to the right. If the letter is at the end of the alphabet, it wraps around to the beginning. The encryption function checks if the character is an uppercase or lowercase letter and performs the appropriate shift operation using the ASCII character codes. The result is an encrypted message.

For decryption, the same Caesar Cipher algorithm is used with a shift of 7 positions to the left. By applying the reverse shift, the encoded message can be decrypted to its original form.

The JavaScript functions `encryptWithCaesarCipher` and `decryptWithCaesarCipher` handle the encryption and decryption operations respectively. These functions implement the Caesar Cipher algorithm by manipulating the character codes of the message and performing the necessary shift calculations.

Overall, the application relies on the Caesar Cipher algorithm and its implementation in JavaScript to provide file encryption and decryption functionality.