File encryption and decryption

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March 16, 2025

Introduction

- Focus on file encryption using XOR key
- Aimed at improving file security
- Simple encryption algorithm for educational purposes
- Encrypts and decrypts file content with bitwise operation
- Uses C programming language for implementation

Features

- Encrypts text files using XOR key
- Shifts characters bitwise using key by comparing binary values
- File input and output handled through file pointers
- Uses temporary file for encrypted content
- Provides basic file encryption and decryption functionality
- Outputs confirmation message on successful operation

How it works

- Consider “A”(ASCII=65,binary=01000001).
- Using XOR key ^ 5(binary=00000101).
- A is encrypted to D(ASCII=68,binary=01000100).
- D decrypted to A again.

Technical stack

- Programming language: C
- File handling: fopen(), fgetc(), fputc()
- Encryption technique: XOR Key
- File operations: Reading, writing, and closing files
- Data manipulation using bitwise shift
- Basic error handling for file operations

User Interface Design

- Simple text-based input for filename
- Clear user prompt for filename entry
- No graphical interface, console-based interaction
- Outputs operation success message
- File operations happen behind the scenes
- No complex UI, focuses on functionality

Data Security

- Simple XOR key technique, not suitable for high security
- Uses temporary file to hold encrypted data
- Original file overwritten with encrypted data
- Basic protection against casual viewers
- Advanced encryption techniques can improve security

Conclusion

- Simple encryption solution for educational purposes
- Provides a foundational understanding of file handling
- Useful for understanding encryption and decryption techniques
- Can be extended for stronger encryption methods

Thank you

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