***Title:***

**Text Encryption and Decryption System in Assembly Language**

***Introduction***

The project develops a simple text encryption and decryption application using Assembly language to demonstrate the basic principles of cryptographic methods at a low-level programming interface.

***Background***

The choice of Assembly language allows direct manipulation of hardware-level operations essential for efficient cryptographic functions, aimed at educational and proof-of-concept applications.

***Project Specification***

- Environment: Assembly language (MASM)

- Key Components: File operations, XOR encryption and decryption

- Functionality: Encrypt text, save to file, decrypt, and display results

***Problem Analysis***

Key challenges include efficient file I/O operations, secure key management, and user interface design in a low-level programming context.

***Solution Design***

- File Handling: Operations for creating, writing, and closing files

- Encryption/Decryption: XOR method with a static key

- User Interface: Basic prompts for user input and result display

***Implementation & Testing***

The system was developed using procedural programming, tested with various input lengths to ensure correct encryption and decryption.

***Project Breakdown Structure***

- Total Duration: 2 weeks

- Major Phases: Planning, Coding, Testing, Documentation

***Results***

Screenshots in the final report show encrypted and decrypted text outputs and any file operation errors.

***Conclusion***

The project underscores the efficiency of Assembly language in implementing fundamental cryptographic operations, though it lacks advanced security features, suggesting potential areas for future enhancements.

Abdul Haseeb(22K-5069)