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Encryption and Decryption Tool

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Overview

Encryption and decryption are fundamental processes in the field of information security. They involve the transformation of data to secure it from unauthorized access. These processes are crucial for safeguarding sensitive information, such as personal data, financial transactions, and communication.

Encryption is the process of converting plaintext or readable data into an unintelligible form, known as ciphertext, using an algorithm and a cryptographic key. The goal of encryption is to protect the confidentiality of the information by making it difficult for unauthorized parties to understand the content without the appropriate decryption key.

And decryption is the reverse process of encryption. It involves converting ciphertext back into plaintext using the appropriate decryption key.

User Interface	
Responsibilities : <ul style="list-style-type: none">• Manage queries of the user.	Collaborates : <ul style="list-style-type: none">• Encryption Manager• Decryption Manager

Encryption Manager	
Responsibilities : <ul style="list-style-type: none">• managing the encryption process	Collaborates : <ul style="list-style-type: none">• Encryption Algorithm• Key Manager• File Handler• User Interface

Decryption Manager	
Responsibilities : <ul style="list-style-type: none">• Manages the decryption process.	Collaborates : <ul style="list-style-type: none">• Decryption Algorithm• Key Manager• File Handler• User Interface

FileEncryptor & FileDecryptor	
Responsibilities : <ul style="list-style-type: none">• Combines encryption/decryption functionalities with file handling.	Collaborates : <ul style="list-style-type: none">• EncryptionManager• DecryptionManager

Key Manager	
Responsibilities : <ul style="list-style-type: none">• Generates key or accepts key from the user.• Checks the the user provided key is valid or not.	Collaborates : <ul style="list-style-type: none">• File Encryptor and FileDecryptor• User Interface

Encryption Algorithm & Decryption Algorithm	
Responsibilities : <ul style="list-style-type: none">• Holdes the different kinds of encryption and decryption algorithms	Collaborates : <ul style="list-style-type: none">• File Encryptor and Decryptor

