



CRYPTOGRAPHY

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PROBLEM STATEMENT

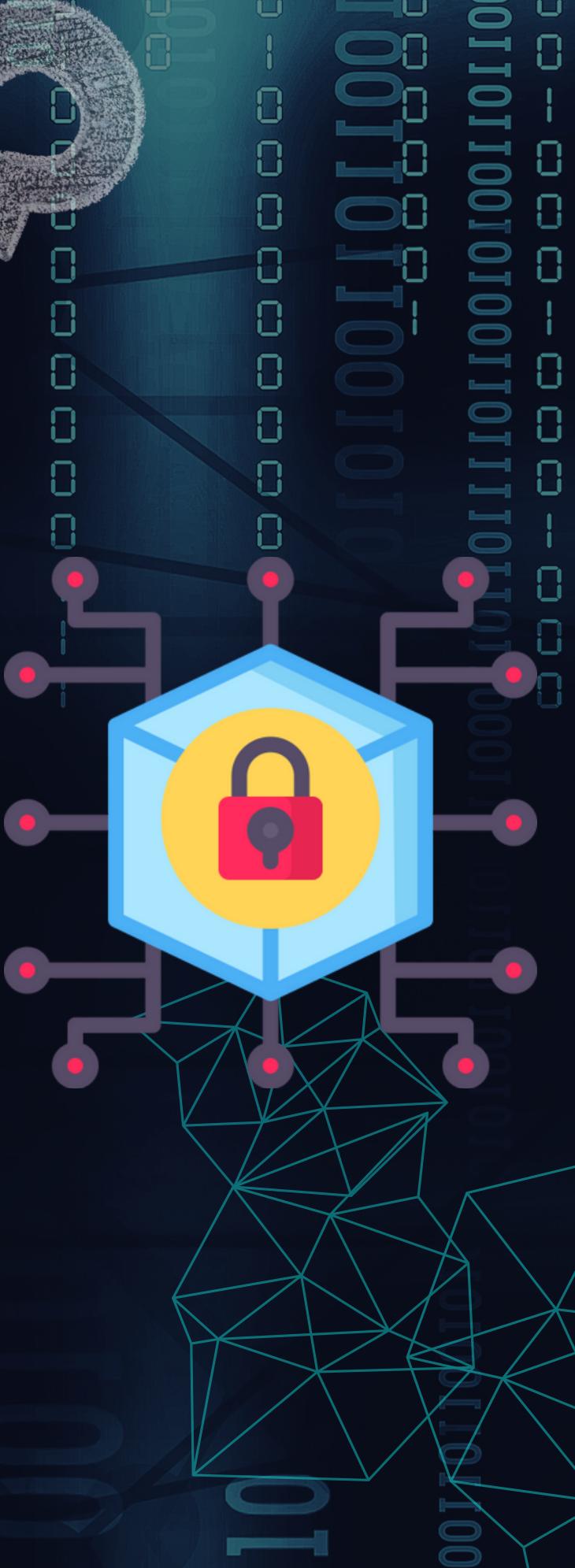
- Security and privacy are top priorities for both individuals and enterprises in the modern digital world.
- The study of secure communication methods that enable the confidential exchange and storage of data is known as cryptography.
- Additionally, it will provide light on the difficulties faced by cryptographers and the significance of continuously advancing cryptographic methods in order to keep up with changing threats to information security.

ABSTRACT

- The study covers the difficulties faced by cryptographers as well as the importance of cryptography in providing secure information storage and communication.
- In order to keep up with the changing threats to information security, cryptographic approaches must always be improved.
- As this project explains the significance of cryptography in the digital age. The insights learned from this study can assist people and organisations in making wise choices regarding how to protect their sensitive data.

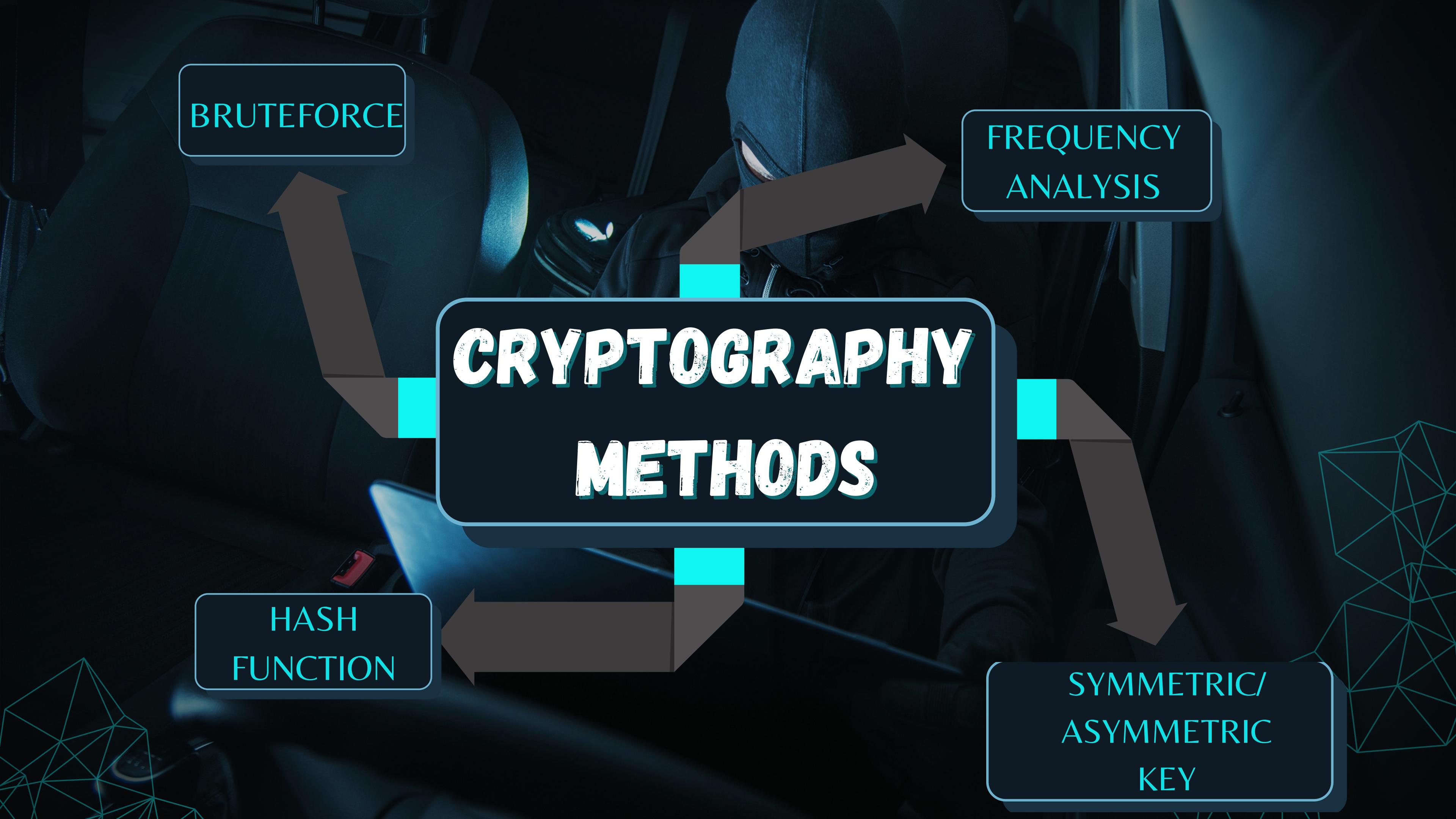
WHAT IS CRYPTOGRAPHY

- Cryptography is a method of protecting information and communications through the use of codes, so that only those for whom the information is intended can read and process it.
- Techniques which are used to protect information a set of rule based calculations known as algorithms to convert messages in ways that make it hard to decode it



TECHNIQUES USED FOR CRYPTOGRAPHY

- Cryptography is often associated with the process where an ordinary plain text is converted to cipher text.
- Intended receiver of the text can only decode it and hence this process is known as encryption.
- The process of conversion of cipher text to plain text this is known as decryption.



BRUTEFORCE

FREQUENCY
ANALYSIS

CRYPTOGRAPHY METHODS

HASH
FUNCTION

SYMMETRIC/
ASYMMETRIC
KEY

DESCRIPTION

BRUTEFORCE

USAGE OF
POSSIBLE
COMBINATION
OF CHARACTERS

FREQUENCY
ANALYSIS

FREQUENCY OF
OCCURENCE
OF
CHARACTERS

CODE
BREAKING

FINDING
VULNERABILITIES
IN ENCRYPTION
ALGORITHM

HASH
FUNCTION

CONVERTS
DIGITAL DATA
INTO AN OUTPUT
STRING

ADVANTAGES

- ACCESS CONTROL
- SECURE COMMUNICATION
- PROTECTION AGAINST ATTACKS
- COMPLIANCE WITH LEGAL REQUIREMENTS
- AUTHENTICATION
- NON - REPUDIATION

DISADVANTAGES

- COMPLEXITY
- KEY MANAGEMENT
- PERFORMANCE OVERHEAD
- FALSE SENSE OF SECURITY
- MALICIOUS USE
- KEY EXCHANGE
- CRYPTOGRAPHIC ATTACKS