

application brief



Name:Almontaser Ahmed

**Edu mail :
Almontaserbellah195221@feng.
bu.edu.eg**

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Division	-----
Academic Year	2019-2020 Preparatory
Course name	Computer
Course code	ECE001

B.N:207

application brief

Cryptography has a special place in the science of information security, as it is the heart of information security because of the confidentiality it provides. Throughout history, use encryption to exchange messages that cannot be read by anyone except the intended recipient of the message.

Digital encryption technology has expanded beyond simple confidential messages; Encryption can be used for more sophisticated purposes, such as checking the author of a message or surfing the Internet anonymously using the Tor network. In certain circumstances, the coding can be automatic and simple

Encryption is the method that protects your valuable information, such as documents, pictures or electronic transactions within the Internet, from unwanted people to prevent access to or change them. Encryption works with a "mathematical formula" code, and a key to convert the readable data "plain text" into a form that others cannot understand "encrypted text".

The code is the general recipe for encryption, and your private key makes encrypted data unique. It can only be decrypted by those who know this key. Usually, the keys are a long chain of numbers that are protected by shared authentication mechanisms such as passwords, symbols, or biometrics such as fingerprint

Screenshots

home

Encryption is essentially important because it secures data and information from unauthorized access and thus maintains the confidentiality. Here's a blog post to help you understand "what is cryptography" and how can it be used to protect corporate secrets, secure classified information, and personal information to guard against things like identity theft. Here's what I have covered in this links:

links:

- [Introduction to Cryptography](#)
- [aim Encryption](#)
- [Encryption Algorithms](#)
- [How various Cryptographic Algorithms Works](#)

Introduction to Cryptography

links:

- [home](#)
- [aim Encryption](#)
- [Encryption Algorithms](#)
- [How various Cryptographic Algorithms Works](#)

What Is Cryptography?

Cryptography is the practice and study of techniques for securing communication and data in the presence of adversaries.



aim Encryption

links:

- [Introduction to Cryptography](#)
- [home](#)
- [Encryption Algorithms](#)
- [How various Cryptographic Algorithms Works](#)

Confidentiality

- It is a service used to store information content from all people except those who have been authorized to view it.

Integrity

- It is a service used to keep information from being changed (deleted, added or modified) by people who are not authorized to do so.

Authentication

- It is a service that is used to verify the identity of the data owner (authorized).

Non-repudiation

- It is a service used to prevent a person from denying doing something.

So the primary goal of encryption is to provide these services to people to keep their information secure.

Encryption Algorithms

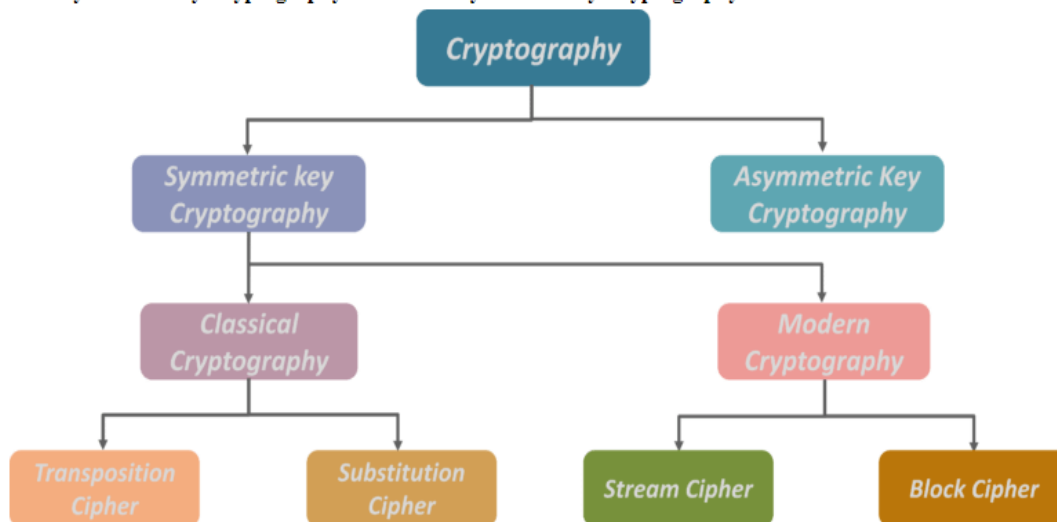
links:

- [Introduction to Cryptography](#)
- [aim Encryption](#)
- [home](#)
- [How various Cryptographic Algorithms Works](#)

Cryptography is broadly classified into two categories:

Symmetric key Cryptography

Asymmetric key Cryptography



Now Symmetric key Cryptography is further categorized as Classical Cryptography and Modern Cryptography.

Further drilling down, Classical Cryptography is divided into Transposition Cipher and Substitution Cipher. On the other hand, Modern Cryptography is divided into Stream Cipher and Block Cipher.

How various Cryptographic Algorithms Works

links:

- [Introduction to Cryptography](#)
- [aim Encryption](#)
- [Encryption Algorithms](#)
- [home](#)

Let's start with the Symmetric key encryption

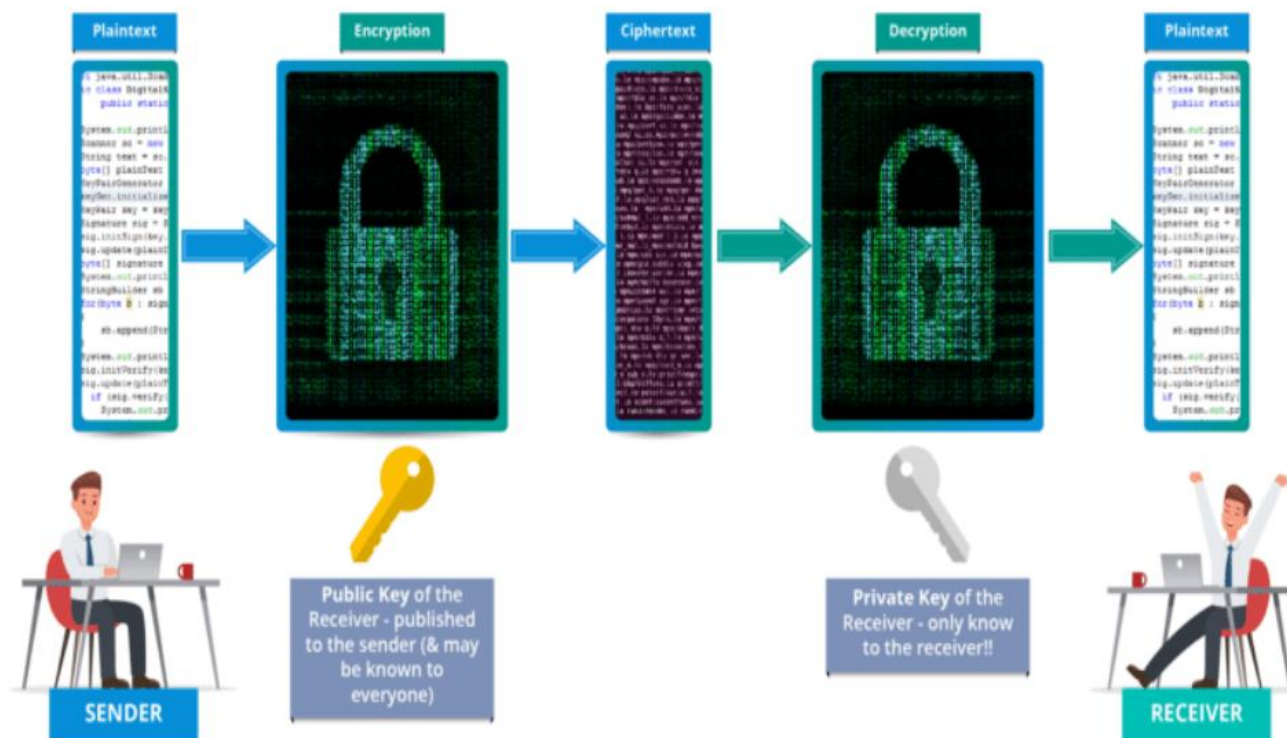
Symmetric Key Cryptography

An encryption system in which the sender and receiver of a message share a single, common key that is used to encrypt and decrypt the message. The most popular symmetric-key system is the Data Encryption Standard (DES)



Asymmetric Key Encryption (or Public Key Cryptography)

The encryption process where different keys are used for encrypting and decrypting the information. Keys are different but are mathematically related, such that retrieving the plain text by decrypting ciphertext is feasible.



Source code

```
</html>
<body>
  <h1>home</h1>
  Encryption is essentially important because it secures data and information from unauthorized access and thus maintains the confi

Here's what I have covered in this links:
  <h2> links: </h1>
  <ul>
    <li><a href="IntroductiontoCryptography.html">Introduction to Cryptography</a></li>
    <li><a href="aimEncryption.html">aim Encryption</a></li>
    <li><a href="EncryptionAlgorithms.html">Encryption Algorithms</a></li>
    <li><a href="HowvariousCryptographicAlgorithmsWorks.html">How various Cryptographic Algorithms Works</a></li>
  </ul>
</body>
</html>
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</html>
<body>
  <h1>Introduction to Cryptography</h1>
  <h2> links: </h1>
  <ul>
    <li><a href="home.html">home</a></li>
    <li><a href="aimEncryption.html">aim Encryption</a></li>
    <li><a href="EncryptionAlgorithms.html">Encryption Algorithms</a></li>
    <li><a href="HowvariousCryptographicAlgorithmsWorks.html">How various Cryptographic Algorithms Works</a></li>
  </ul>
  <h4>What Is Cryptography?</h4>
  <p>Cryptography is the practice and study of techniques for securing communication and data in the presence of adversaries.</p>
  
  <p> Alright, now that you know " what is cryptography " let's see how cryptography can help secure the connection between Andy and Sam.
  <p>So, to protect his message, Andy first convert his readable message to unreadable form. Here, he converts the message to some random
  <p>Andy sends this ciphertext or encrypted message over the communication channel, he won't have to worry about somebody in the middle
  
  <p>Now, Sam would need a key to decrypt the message to recover the original plaintext. In order to convert the ciphertext into plain te
  <p>After using the key for decryption what will come out is the original plaintext message, is an error. Now, this error is very impor

  </body>
</html>
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</html>
<body>
  <h1>Encryption Algorithms</h1>
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    <li><a href="HowvariousCryptographicAlgorithmsWorks.html">How various Cryptographic Algorithms Works</a></li>
  </ul>
  Cryptography is broadly classified into two categories:
  <table style="width:50%">
    <tr>
      <th>Symmetric key Cryptography</th>
      <th>Asymmetric key Cryptography</th>
    </tr>
  </table>
  
  <P>Now Symmetric key Cryptography is further categorized as Classical Cryptography and Modern Cryptography.</P>
  <P>Further drilling down, Classical Cryptography is divided into Transposition Cipher and Substitution Cipher. On the other hand, Mode
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</html>

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</html>
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  </ul>
  <dl>
    <dt>Confidentiality</dt>
    <dd>- It is a service used to store information content from all people except those who have been authorized to view it.</dd>
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    <dd>- It is a service used to keep information from being changed (deleted, added or modified) by people who are not authorized to dc
    <dt>Authentication</dt>
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  So the primary goal of encryption is to provide these services to people to keep their information secure.
  </body>
</html>

```



```

</html>
<body>
  <h1>How various Cryptographic Algorithms Works</h1>
  <h2> links: </h2>
  <ul>
    <li><a href="IntroductiontoCryptography.html">Introduction to Cryptography</a></li>
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    <li><a href="home.html">home</a></li>
  </ul>
  Let's start with the Symmetric key encryption
  <h2>Symmetric Key Cryptography</h2>
  An encryption system in which the sender and receiver of a message share a single, common key that is used to encrypt and decrypt th
  
  <h2>Transposition Ciphers</h2>
  In Cryptography, a transposition cipher is a method of encryption by which the positions held by units of plaintext (which are commo
  <p>That is, the order of the units is changed (the plaintext is reordered). Mathematically, a bijective function is used on the char
  <h2> Substitution Cipher</h2>
  Method of encryption by which units of plaintext are replaced with ciphertext, according to a fixed system; the "units" may be singl
  <h2>Stream Cipher</h2>
  Symmetric or secret-key encryption algorithm that encrypts a single bit at a time. With a Stream Cipher, the same plaintext bit or b
  
  <h2>Block Cipher</h2>
  An encryption method that applies a deterministic algorithm along with a symmetric key to encrypt a block of text, rather than encrypti
  
  <h2>Asymmetric Key Encryption (or Public Key Cryptography)</h2>
  <p>The encryption process where different keys are used for encrypting and decrypting the information. Keys are different but ar
  
  <p>RSA is the most widely used form of public key encryption,</p>
  <h2>RSA Algorithm</h2>
</ul>
  <li>RSA stands for Rivest, Shamir, and Adelman, inventors of this technique</li>
  <li>Both public and private key are interchangeable</li>
  <li>Variable Key Size (512, 1024, or 2048 bits)
</li>
</ul>

  Alright, this was it for "What is Cryptography" blog. To safeguard your information and data shared over the internet it is important t
  </body>
</html>

```