Cryptography

The Past, Present, and Future of Encryption

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Abstract

This document discusses multiple topics related to encryption and cryptography. Examples of classical encryption throughout the last three millennia, their historical significance, and how they have affected the field of cryptography are covered to supply historical context. Modern cryptography is discussed at length, including detailed descriptions of most popular modern encryption schemes from the past hundred years, their advantages and disadvantages, and the history of their use. Encryption schemes that have been effectively broken by flaws or advancements in technology are covered in detail, as a framework for how future encryption schemes can avoid the follies of the past. The most secure and widely used encryption methods of today are discussed in detail, including their known flaws and expected effective lifespans before being broken. The future of modern cryptography and encryption are theorized, especially in how advancements in quantum computing and new technologies might affect existing encryption schemes considered secure.