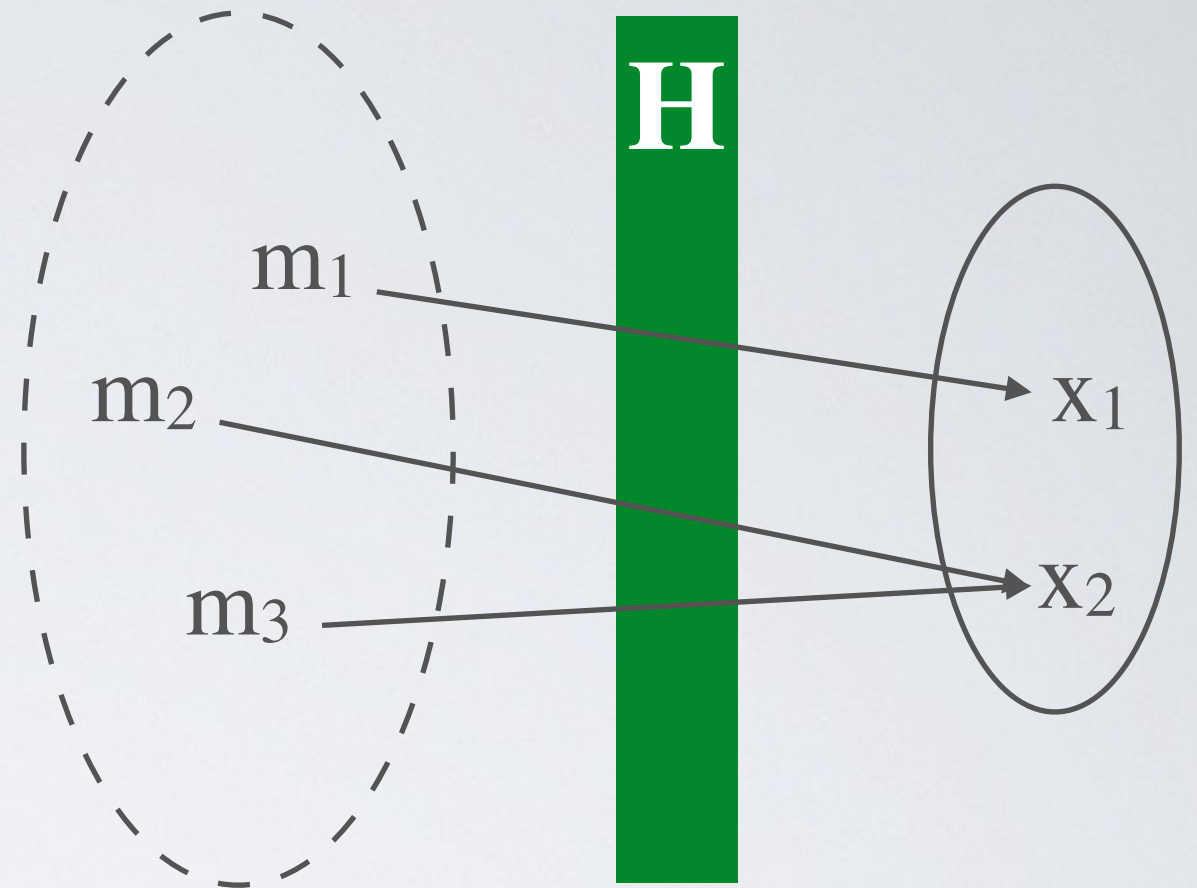


Cryptographic Hash Functions and Message Authentication Code

Thierry Sans

Cryptographic hashing



$H(m) = x$ is a hash function if

- H is one-way function
- m is a message of any length
- x is a message digest of a fixed length

➡ H is a lossy compression function
necessarily there exists x, m_1 and $m_2 \mid H(m_1) = H(m_2) = x$