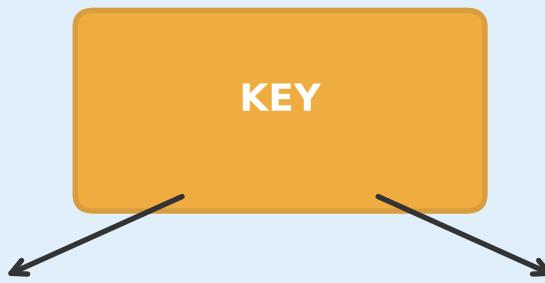


# Symmetric vs Asymmetric Cryptography

## SYMMETRIC

Same key for encrypt & decrypt



Alice

Bob

Fast (AES: GB/s)

Key distribution problem

Examples: AES, ChaCha20

### Symmetric

**Speed**

Very Fast

Slow

**Key Length**

128-256 bits

2048+ bits (RSA)

**Use Case**

Bulk encryption

Key exchange, signatures

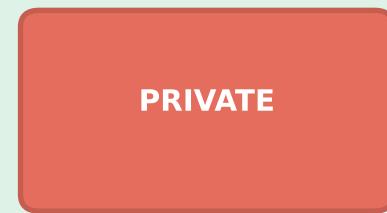
**In Blockchain**

Encrypt data

Sign transactions

## ASYMMETRIC

Public key + Private key pair



Slower (RSA: KB/s)

Solves key distribution

Examples: RSA, ECDSA

### Asymmetric