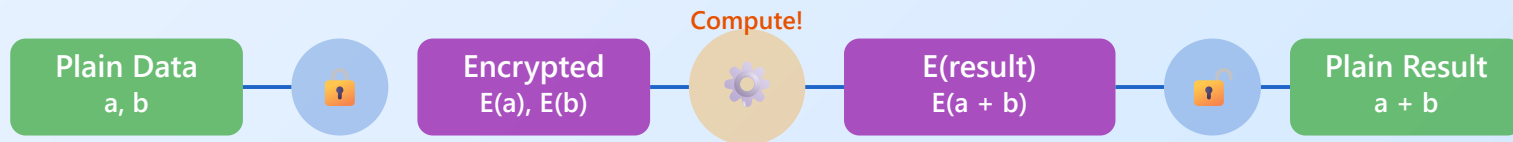


# Homomorphic Encryption



## How It Works

### Mathematical Property:

$$E(3) + E(5) = E(8) \quad E(a) \oplus E(b) = E(a \oplus b)$$

Operation on encrypted data = Encryption of operated data

## Types

### Partial HE

Only addition OR  
multiplication

### Somewhat HE

Limited number of  
operations

### Fully HE ★

Arbitrary  
computations



**Security**



100-1000x slowdown

**Performance** ⚡