



From MCE  
to MEDS

1

equivalence  
relation



2

zero knowledge  
identification scheme



3

signature scheme!

Fiat-Shamir

1 → 2

### SETUP

- Assume parameter set  $q, n, m, k$ . and "starting" code  $\mathcal{C}_0$
- Generate **secret key**  $A \in \text{GL}_m(q), B \in \text{GL}_n(q)$
- Generate **public key**  $\mathcal{C}_1 = A\mathcal{C}_0B$



### COMMIT

- Generate **ephemeral**  $\tilde{A} \in \text{GL}_m(q), \tilde{B} \in \text{GL}_n(q)$
- Generate **ephemeral code**  $\tilde{\mathcal{C}} = \tilde{A}\mathcal{C}_0\tilde{B}$

$$\begin{array}{ccc}
 \mathcal{C}_0 & \xrightarrow{(\tilde{A}, \tilde{B})} & \tilde{\mathcal{C}} \\
 (A, B) \downarrow & & \\
 \mathcal{C}_1 & & 
 \end{array}$$



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