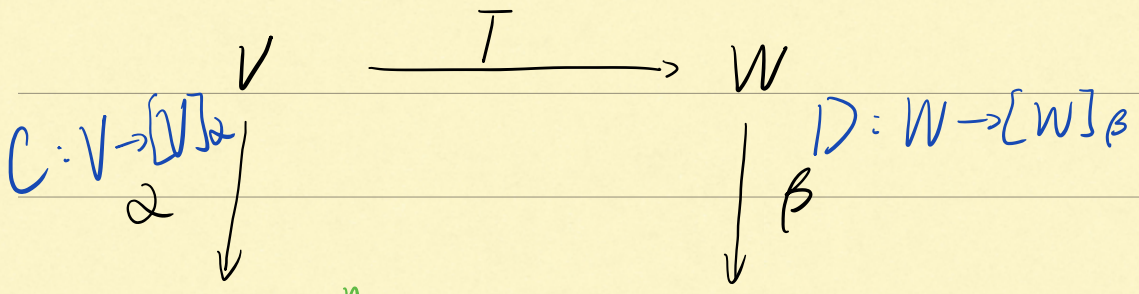
$T : V \to W$



$$[V]_\alpha \in F^n \xrightarrow{L_A} [W]_\beta \in F^m$$

$$[W]_\beta = A[V]_\alpha = [L_A]_\alpha^\beta [V]_\alpha$$

if $V = F^n$, $W = F^m$ only need to make sure C, D don't change the matrix (i.e. α β are the standard ordered bases for F^n and F^m) $\Rightarrow T = L_A$

In general, $T = C L_A D^{-1}$

$T \neq L_A$