

Example 4.3 Let $\mathcal{X} = \{A, B, C, D\}$. Consider the code \mathcal{C} defined by

x	$\mathcal{C}(x)$
A	0
B	1
C	01
D	10

$$AAD \rightarrow 0010$$

$$ACA \rightarrow 0010$$

$$AABA \rightarrow 0010$$

Therefore, \mathcal{C} not uniquely decodable.