

$$\begin{array}{c} \text{---} \end{array} \boxed{\hat{F}} \text{---} \Leftrightarrow \hat{F} = \frac{1}{\sqrt{d}} \sum_{j,k=0}^{d-1} \omega_d^{jk} |j\rangle \langle k|, \quad \omega_d = e^{\frac{2\pi i}{d}}$$