

$$|\psi\rangle = |0\rangle$$

$$|\psi\rangle = |1\rangle$$

$$|\psi\rangle = |0\rangle + |1\rangle$$

$$|\psi\rangle = \frac{1}{\sqrt{2}}(|0\rangle + |1\rangle)$$

$$|\psi\rangle = a|0\rangle + b|1\rangle$$