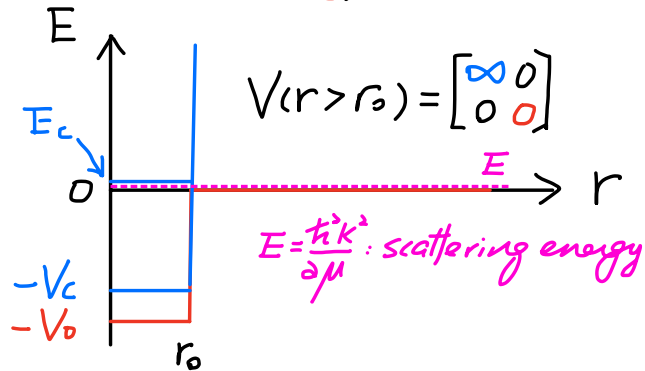


HW4 #2

$$V(r < r_0) = - \begin{bmatrix} V_c & \leftarrow \\ \leftarrow & V_0 \end{bmatrix}$$



$$\text{let } \phi(r) = r \psi(r)$$

$$-\frac{\hbar^2}{2\mu} \phi''(r) = (E - V) \phi(r)$$

$$\text{When } E - V > 0 \quad \phi = A \sin kx + B \cos kx$$

$$E - V < 0 \quad \phi = A' \exp kx + B' \exp -kx$$

$$\text{where } \hbar^2 k^2 / 2\mu = |E - V|$$

$$\text{B.C. } \vec{\phi}(r_0^-) = \vec{\phi}(r_0^+)$$

$$\vec{\phi}'(r_0^-) = \vec{\phi}'(r_0^+)$$