$$\Delta V = IR$$

$$I = \frac{\Delta V}{R}$$

Why Kirchhoff's Rules?

→ Analyze → To calculate currents in the circuit

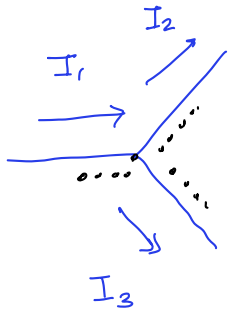→ Power dissipated by a resister (s) in a circuit etc

Kirchhoff's Rules:

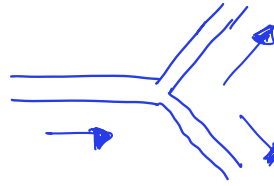1. Junction Rule: At any Junction : $\sum\limits_{junto} I = 0$

2. Loop Rule : The sum of potential difference across all elements around any closed loop must be zero : $\sum\limits_{loop} \Delta V = 0$
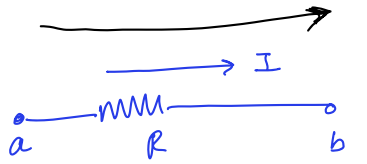
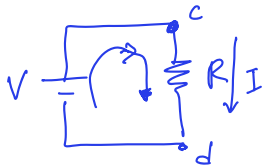1. Junction Rule: $\sum\limits_{june} I = 0$

$+ I_1 - I_2 - I_3 = 0$
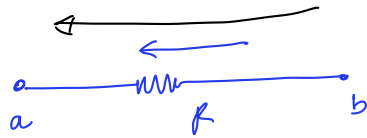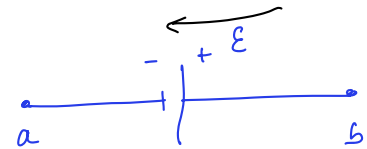

2nd Rule: Loop Rule:

$\Delta V = V_b - V_a$

$\Delta V = - IR$

$\Delta V = + IR$

$\Delta V = - \mathcal{E}$

$\Delta V = + \mathcal{E}$