CSE 3100

Lab 1

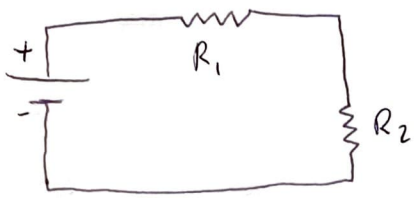
Daniel Delgado Acosta

2-6-22

$R_1 = 100\,\Omega \quad R_2 = 500\,\Omega$

In series:

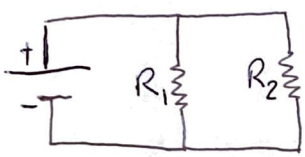
$R_s = R_1 + R_2 + \dots$



$$R_{tot} = 100 + 500 = \underline{600\,\Omega}$$

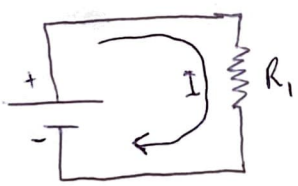
In Parallel:

$$\frac{1}{R_p} = \frac{1}{R_1} + \frac{1}{R_2} + \dots$$



$$R_{tot} = \left(\frac{1}{100} + \frac{1}{500}\right)^{-1} = \underline{83.\overline{3}\,\Omega}$$

Figure 1:

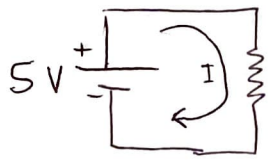


$V = 5V$
$R_1 = 100\,\Omega$
$I = ?$

$V = IR \Rightarrow I = \frac{V}{R}$

$$I = \frac{5}{100} = \underline{0.05\,A}$$

Figure 2:



$V = 5\,V$

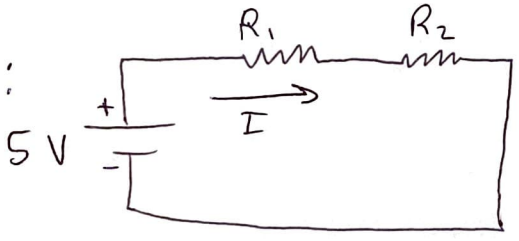
$R_2 = 500\,\Omega$

$I = ?$

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

$$I = \frac{5}{500} = \underline{0.01\ A}$$

Figure 3:



$V = 5\,V$

$R_1 = 100\,\Omega$

$R_2 = 500\,\Omega$

$I = ?$

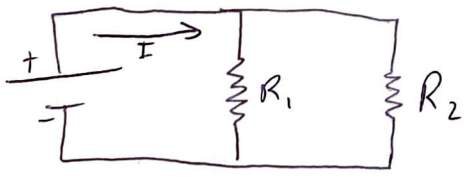
$$I = \frac{V}{R_{tot}}$$

$$R_s = R_1 + R_2 + \ldots$$

$$R_{tot} = 100 + 500 = 600\,\Omega$$

$$I = \frac{5}{600} = \underline{0.00\overline{83}\ A}$$

Figure 4:



$V = 5\,V$

$R_1 = 100\,\Omega$

$R_2 = 500\,\Omega$

$I = ?$

$$I = \frac{V}{R_{tot}}$$

$$R_{tot} = \left(\frac{1}{100} + \frac{1}{500}\right)^{-1} = 83.\overline{3}\,\Omega$$

$$R_p = (R_1 + R_2 + \ldots)^{-1}$$

$$I = \frac{5}{83.\overline{3}} = \underline{0.06\ A}$$