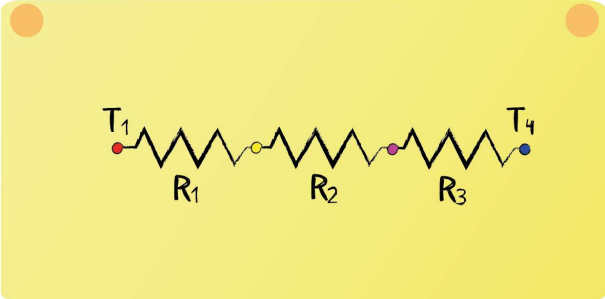
Lecture 4 - Question 7



Give a description for the heat flux passing the network. Assume one-dimensional steady-state heat transfer. Assume $T_1 > T_4$.

The heat flux passing a resistor network can be expressed as:

$$\dot{Q} = \frac{1}{R_{c,tot}} (T_1 - T_{n+1})$$

Using this equation, the heat passing the network will be:

$$\dot{Q} = (T_1 - T_4)/(R_1 + R_2 + R_3)$$