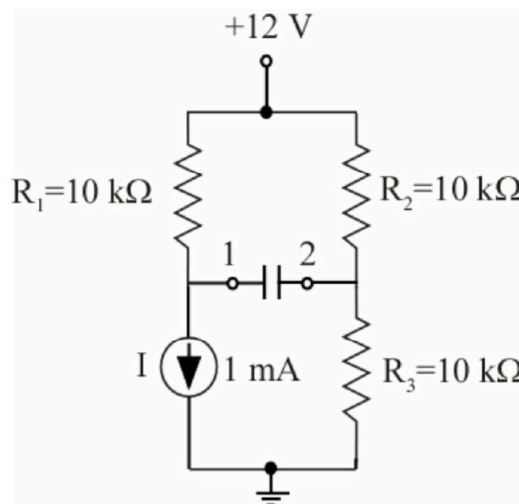


1. Given the circuit below:

- Find the effective resistance (Thevenin resistance), seen by the capacitor terminals,  $R_{12}$ .
- Determine the Thevenin voltage seen between node 1 and ground,  $V_{Th1,0}$ .
- Determine the Thevenin voltage seen between node 2 and ground,  $V_{Th2,0}$ .



2. Assume that  $\alpha = 0.99$  in the circuit shown below:

- Calculate the voltage gain,  $A = \frac{v_{out}}{v_{in}}$ .
- Calculate the input resistance seen between the input node and ground,  $R_{in}$ .
- Calculate the output resistance seen between the output node and ground,  $R_{out}$ .

