# 1 Voltage input, Voltage output
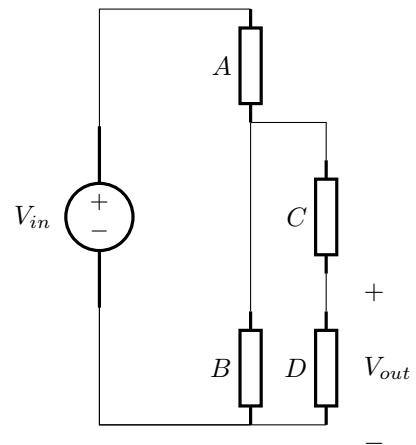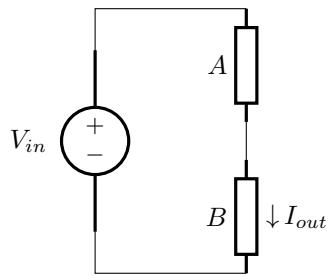
Example 1
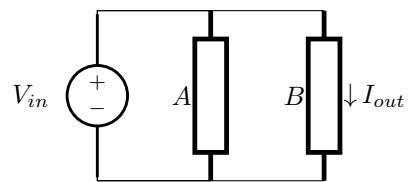
Example 2


Example 3

# 2 Voltage input, Current output
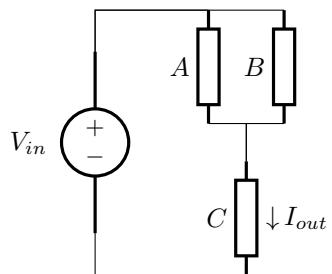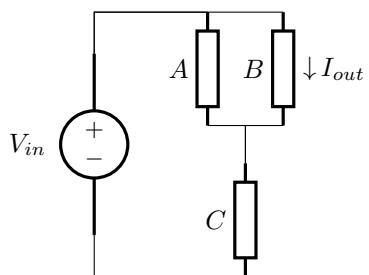
Example 1

Example 2
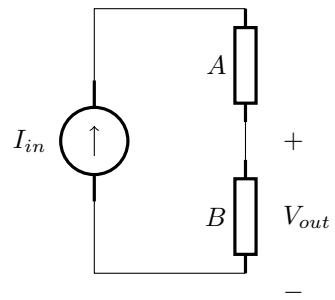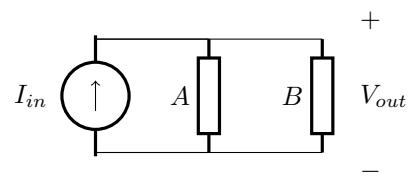
Example 3

Example 4

3   Current input, Voltage output
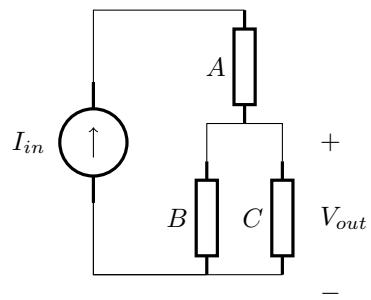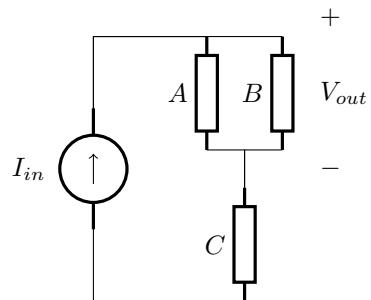
Example 1
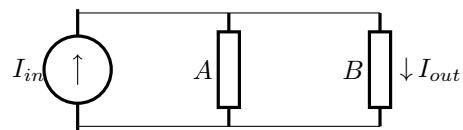
Example 2
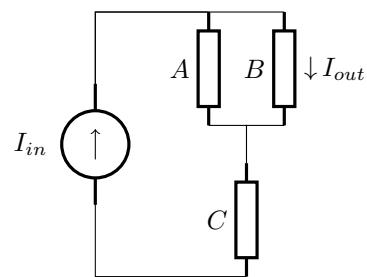
Example 3

Example 4

4 Current input, Current output

Example 1

I_{in} ↑ A B ↓ I_{out}

Example 2

A B ↓ I_{out}

I_{in} ↑

C

Example 3

A

I_{in} ↑ C

B ↓ I_{out} D
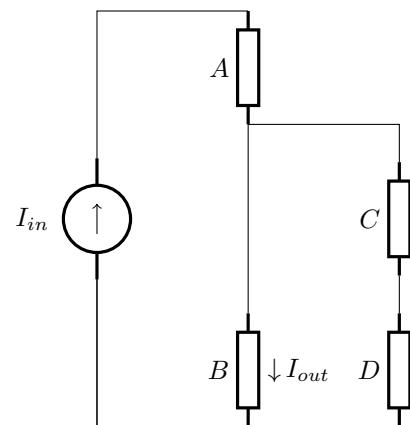
5 Solutions

Voltage in, Voltage out
Example 1: $V_{out} = V_{in}(1 - \frac{B}{A+B})$
Example 2: $V_{out} = V_{in}\frac{BC}{AB+AC+BC}$
Example 3: $V_{out} = V_{in}\frac{D}{C+D}\frac{BC+BD}{AB+AC+AD+BC+BD}$

Voltage in, Current out
Example 1: $I_{out} = V_{in}\frac{1}{A+B}$
Example 2: $I_{out} = V_{in}\frac{1}{B}$
Example 3: $I_{out} = V_{in}\frac{A+B}{CA+CB+AB}$
Example 4: $I_{out} = V_{in}\frac{A}{CA+CB+AB}$

Current in, Voltage out
Example 1: $V_{out} = I_{in}B$
Example 2: $V_{out} = I_{in}\frac{AB}{A+B}$
Example 3: $V_{out} = I_{in}\frac{BC}{B+C}$
Example 4: $V_{out} = I_{in}\frac{AB}{A+C}$

Current in, Current out
Example 1: $V_{out} = I_{in}\frac{A}{A+B}$
Example 2: $V_{out} = I_{in}\frac{A}{A+B}$
Example 3: $V_{out} = I_{in}\frac{C+D}{B+C+D}$