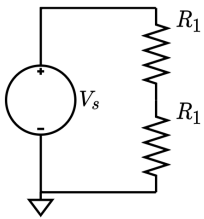


## Voltage divider using resistors

This is perhaps the simplest circuit on which the symbolic capabilities of this program can be demonstrated.

```
circuit = Circuit('circuits/voltage_divider.txt');  
circuit.list
```

```
ans =  
  'Vin 1 0 DC 5  
   R1 1 2 1000  
   R2 2 0 3000  
'
```



```
ELAB.analyze(circuit)
```

Symbolic analysis successful (0.179478 sec).

Maybe you want expressions for node voltages.

```
circuit.symbolic_node_voltages
```

```
ans =  

$$\begin{pmatrix} v_1 = V_{in} \\ v_2 = \frac{R_2 V_{in}}{R_1 + R_2} \end{pmatrix}$$

```

Or the numerical currents for all elements in this particular circuit.

```
ELAB.evaluate(circuit)
```

Numerical evaluation successful (0.0304731 sec).

```
circuit.numerical_element_currents
```

```
ans =  

$$\begin{pmatrix} i_{R1} = \frac{1}{800} \\ i_{R2} = \frac{1}{800} \end{pmatrix}$$

```

```
circuit.file_name
```

```
ans =  
'circuits/voltage_divider.txt'
```