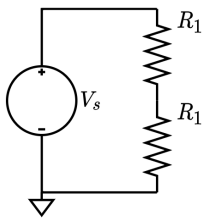
Voltage divider using resistors

This is perhaps the simplest circuit on which the symbolic capabilites 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 (0.177326 sec).
```

Maybe you want expressions for node voltages.

```
circuit.symbolic_node_voltages
```

```
ans =
```

$$\begin{pmatrix} v_1 = \mathrm{Vin} \\ v_2 = \dfrac{R_2\,\mathrm{Vin}}{R_1 + R_2} \end{pmatrix}$$

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

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

```
Numerical evaluation successful (0.0292414 sec).
```

```
circuit.numerical_element_currents
```

```
ans =
```

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

```
circuit.file_name
```

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