Cleaning a circuit

This is another demo of some of the lower level functions, which the program uses to implement higher level functionality.

1. Cloning circuits.

Cloning a circuit is a straight forward way of preserving the original circuit by manipulating a copy of the circuit. We load an arbitrary circuit.

```
c1 = Circuit('circuits/voltage_divider.txt');
c1.list
```

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

We then clone the circuit object and start manipulating it.

```
c2 = c1.clone;
ELAB.simplify(c2);
c2.list
```

```
ans =
    'Vin 1 0 DC 5
     Req1 1 0 4000
     '
```

As seen here, the original circuit is preserved.

```
c1.list
```

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

2. Cloning elements

```
R1 = Resistor('R1', 1, 2, 1000);
R2 = R1.clone;
R1.resistance = 2000;
R2.resistance
```

```
ans = 1000
```

3. Exporting

To export the netlist of a circuit object, we simply call the circuit's `export` function, which will create a netlist file in the current directory.

```
pwd
```

```
ans =
'C:\Users\nkvra\Google_Drive\Documents\Projects\ELABorate\examples'
```