

Circuit simulation

```

class resistor
{
1  resistance := 0
2  voltage := 0
3  next := connector( )
   resistor(r)
4  {
   1  resistance = r
   }
   input1(i)
5  {
   1  output1(i)
   }
   output1(i)
6  {
   1  voltage = i · resistance
   2  next.input1(i)
   }
   connect1(n)
7  {
   1  next = n
   }
}

```

```

class connector
{
   input1(i)
   {
   1
   }
}

```

```

R1 := resistor(2 Ohm)
R2 := resistor(3 Ohm)
R3 := resistor(5 Ohm)
R1.connect1(R2)
R2.connect1(R3)

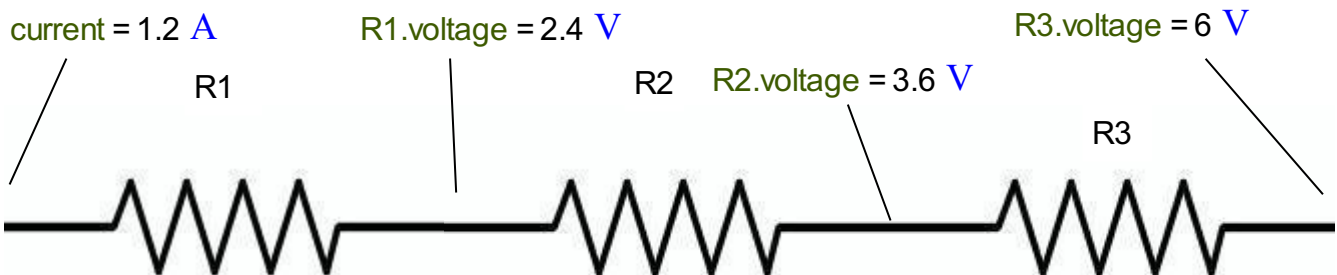
```

```

current := 1.2 A
R1.input1(current)

```

change current to
change voltage



$$R1.voltage + R2.voltage + R3.voltage = 12 \text{ V}$$

```
R1 := resistor(2)
```

```
R2 := resistor(3)
```

```
R3 := resistor(5)
```

```
R1.connect1(R2)
```

```
R2.connect1(R3)
```

Create unitless system,
graph can not handle
units

```
sfn( )
```

```
{  
  1 m := allocate matrix(100 , 2)  
  for(n := -50 , n < 50 , n += 1 )  
  {  
    1 m = set value at(m , n , n + 50 , 0)  
    2 R1.input1(sin(n))  
    3 m = set value at(m , R1.voltage + R2.voltage + R3.voltage , n + 50 , 1)  
  }  
  3 return(m)  
}
```

```
s := sfn( )
```

