Values	Theory	Simulation
V_{R1}	2,77V	2,78V
V_{R2}	1,35V	1,33V
V_{R3}	1,35V	1,33V
V_{R4}	2,11V	2,14V
V_{R5}	0,181 V	0,81V
V_{R6}	7,06V	7,08V
I_{R1}	1,26mA	1,26mA
I_{R2}	0,41mA	0,40mA
I_{R3}	0,41mA	0,40mA
I_{R4}	0,45mA	0,46mA
I_{R5}	0,81mA	0,81mA
I_{R6}	1,26mA	1,26mA
P_{R1}	3,48W	3,502W
P_{R2}	0,55W	0,53W
P_{R3}	0,55W	0,53W
P_{R4}	0,95W	0,98W
P_{R5}	0,66 W	0,66W
P_{R6}	8,89W	8,92W

$P = IV$

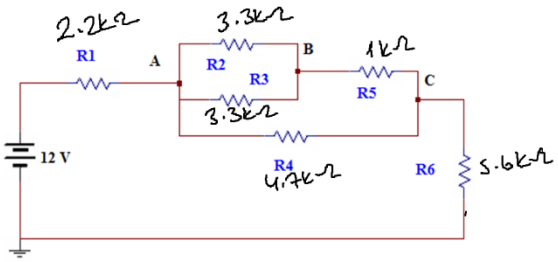
$P_1 = (1,26mA)(2,78V)$
$= 3,502W$

$P_2 = (0,40mA)(1,33V)$
$= 0,53W$

$P_4 = (0,46mA)(2,14V)$
$= 0,98W$

$P_5 = (0,81mA)(0,81V)$
$= 0,66W$

$P_6 = (1,26mA)(7,08V)$
$= 8,92W$



R_1= 2.2 kΩ, R_2= 3.3 kΩ, R_3= 3.3 kΩ,
R_4= 4.7 kΩ, R_5= 1.0 kΩ R_6= 5.6 kΩ

$P = I^2 \cdot R$

$P_1 = (1{,}26\text{mA})^2 (2.2\text{k}\Omega) = 3{,}49\,\text{W}$

$P_3 = P_2 = (0{,}41\text{mA})^2 (3{,}3\text{k}\Omega) = 0{,}55\,\text{W}$

$P_4 = (0{,}45\text{mA})^2 (4{,}4\text{k}\Omega) = 0{,}95\,\text{W}$

$R_2 - R_3$ / $R_{eq}' = \frac{3.3\text{k}\Omega}{2} = 1{,}65\text{k}\Omega$

R_5 / $R_{eq}' = (1{,}65 + 1)\text{k}\Omega = 2{,}65\text{k}\Omega$

$1\text{k}\Omega$ / $R_{eq}' = \frac{(2{,}65 \times 4{,}7)}{(2{,}65 + 4{,}7)}\text{k}\Omega = 1{,}69\text{k}\Omega$

$R_1 - R_6 - R_{eq}' = (1{,}68 + 2{,}2 + 5{,}6)\text{k}\Omega = 9{,}48\text{k}\Omega$ → R_{eq}

$P_5 = (0{,}81\text{mA})^2 (1\text{k}\Omega) = 0{,}66\,\text{W}$

$P_6 = (1{,}26\text{mA})^2 (5{,}6\text{k}\Omega) = 8{,}89\,\text{W}$

$U = i \cdot R$

$12\text{V} = i \cdot 9{,}48\text{k}\Omega$

$i_{eq} = 1{,}26\text{mA}$

$U = i \cdot R$

$U_1 = (1{,}26\text{mA})(2.2\text{k}\Omega) = 2{,}77\text{V}$

$U_3 = U_2 = (0{,}41\text{mA})(3{,}3\text{k}\Omega) = 1{,}35\text{V}$

$U_4 = (0{,}45\text{mA})(4{,}4\text{k}\Omega) = 2{,}11\text{V}$

$U_5 = (0{,}81\text{mA})(1\text{k}\Omega) = 0{,}81\,\text{V}$

$U_6 = (1{,}26\text{mA})(5{,}6\text{k}\Omega) = 7{,}06\,\text{V}$

(K)
2.65kΩ
4.7kΩ
0,56kΩ

$\frac{2.65}{4.7} = 0.56$ → ratio

1,56k — 1,26mA
k — ?
? = 0,81 mA ← $i_{eq} = i_5 + i_3 + i_2$

1,56k — 1,26mA
0,56k — ?
? = 0,45 mA ← i_4

$i_2 + i_3 = 0{,}81$

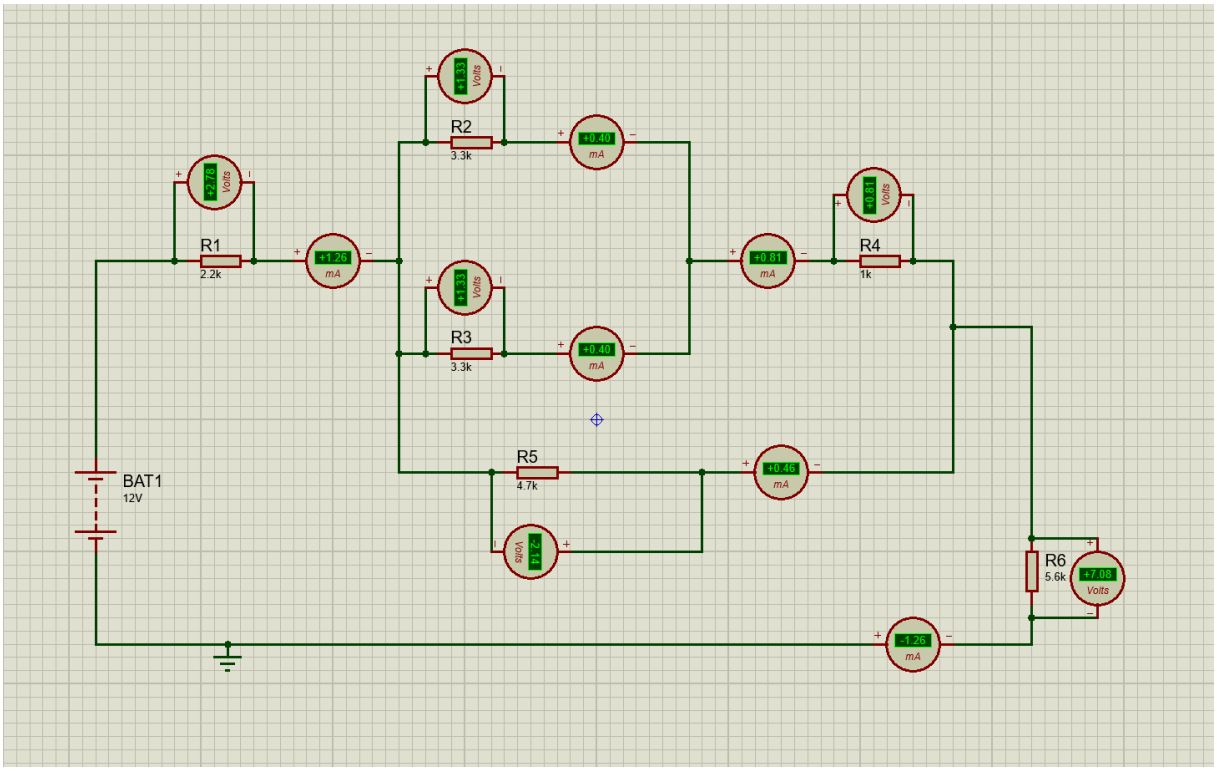
$i_2 = i_3 = 0{,}41\text{mA}$

$i_6 = 0{,}81 + 0{,}45 = 1{,}26\text{mA}$

$i_5 = 0{,}81\text{ mA}$

PART III : Conclusion

Because of the resistor's tolerance we see deviations. Tolerance cause different values and because of this values our calculations and simulation results are different.


+1.33
Volts
R2
3.3k
+0.40
mA
+2.78
Volts
R1
2.2k
+1.26
mA
+1.33
Volts
R3
3.3k
+0.40
mA
+0.81
mA
+0.81
Volts
R4
1k
BAT1
12V
R5
4.7k
+0.46
mA
+2.14
Volts
R6
5.6k
+7.08
Volts
-1.26
mA