CIRCUIT OPERATIONS LINUX.

This is a Calculator for the Delta-Star process and the Current-Voltage process in Bash.

Here is how it works:

Select the conversion or the process that you want to perform by choosing 1,2 or 3.

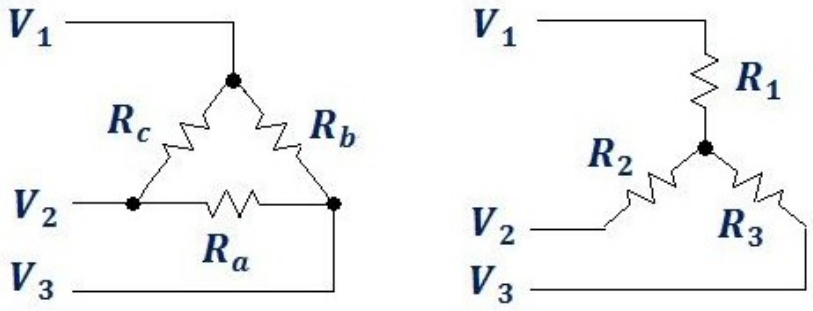
1-Is the Delta-Star or the Star-Delta Process. For this you will need to enter the values of the 3 resistors (R1.R2,R3)(Ra,Rb,Rc) according to the images below. The output will give you the new Delta or Star network.

2- Is the Current Divisor Process. You will need to Enter the Total Current and the R1 and R2 Value. The output will be the Current and Voltage of R1 or R2.

3. Is the Voltage Divisor Process. You will need to Enter the Total Voltage and the R1 and R2 Value. The output will be the Current and Voltage of R1 or R2.

In the images you will be able to see the circuits and the formulas that were used to create this project.

Delta to Star (Δ to Y) Resistance Conversion Formula



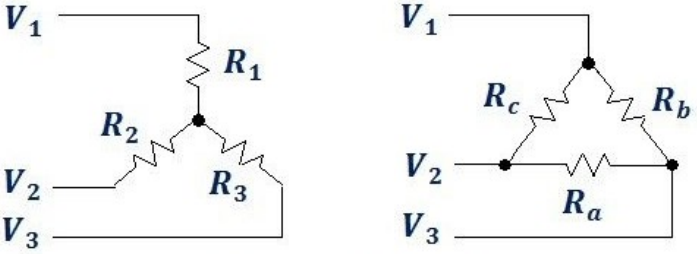
$$R_1 = \frac{R_b R_c}{R_a + R_b + R_c}$$

$$R_2 = \frac{R_a R_c}{R_a + R_b + R_c}$$

$$R_3 = \frac{R_a R_b}{R_a + R_b + R_c}$$

477 × 466

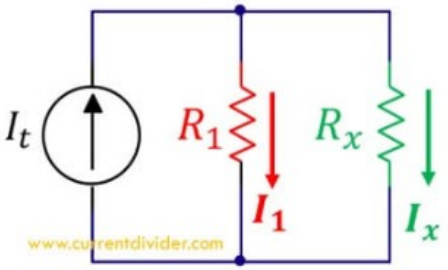
Star to Delta (Y to Δ) Resistance Conversion Formula



$$R_a = \frac{R_1 R_2 + R_1 R_3 + R_2 R_3}{R_1}$$

$$R_b = \frac{R_1 R_2 + R_1 R_3 + R_2 R_3}{R_2}$$

$$R_c = \frac{R_1 R_2 + R_1 R_3 + R_2 R_3}{R_3}$$

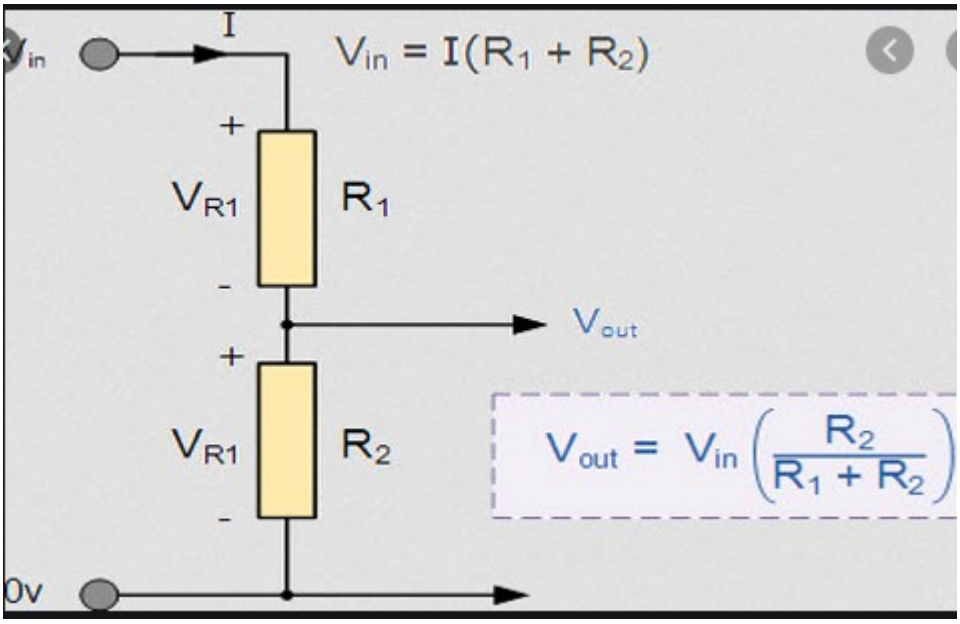


Formula

$$I_x = \frac{R_t}{R_x} * I_t$$

where

$$R_t = R_1 || R_x$$



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CIRCUIT OPERATIONS IN BASH
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Created by Cristian Calderon
23/02/2020
Written in Git Bash
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PLEASE SELECT THE ACTION YOU WANT TO PERFORM:
1-DELTA-STAR CONVERSION.
2-CURRENT DIVIDER CIRCUIT.
3-VOLTAGE DIVIDER CIRCUIT.
1
Please choose the option that is required:
1-Convert Star into Delta.
2-Convert Delta into Star.
1
Please enter the Resistance Values  (R1,R2,R3):
Enter R1 in KΩ:
1
Enter R2 in KΩ:
1
Enter R3 in KΩ:
1
The entered Star is ( 1 KΩ, 1 KΩ, 1KΩ)
==========================================
YOUR NEW DELTA NETWORK (Ra,Rb,Rc) is: ( 3.00 kΩ, 3.00 kΩ, 3.00kΩ)
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Want to Continue? Type 1 for Yes, 2 for Exit
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