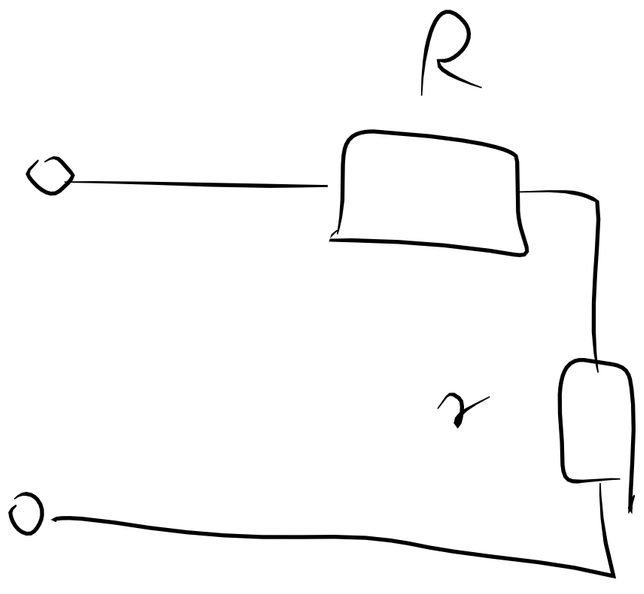
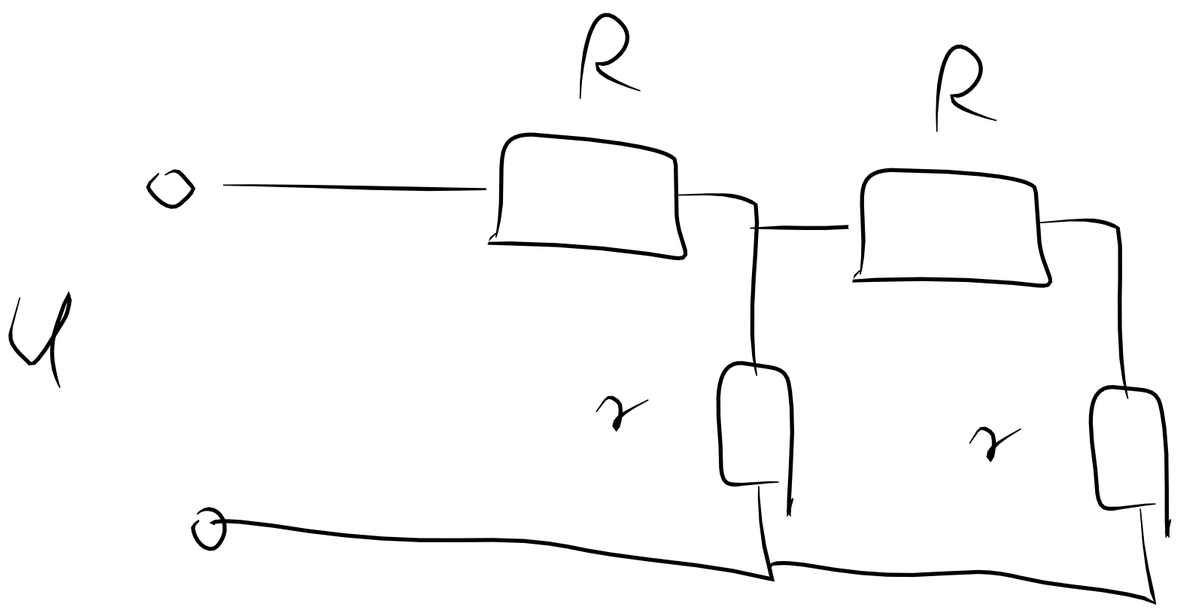
$n = 1$



$$R_1 = R + r$$

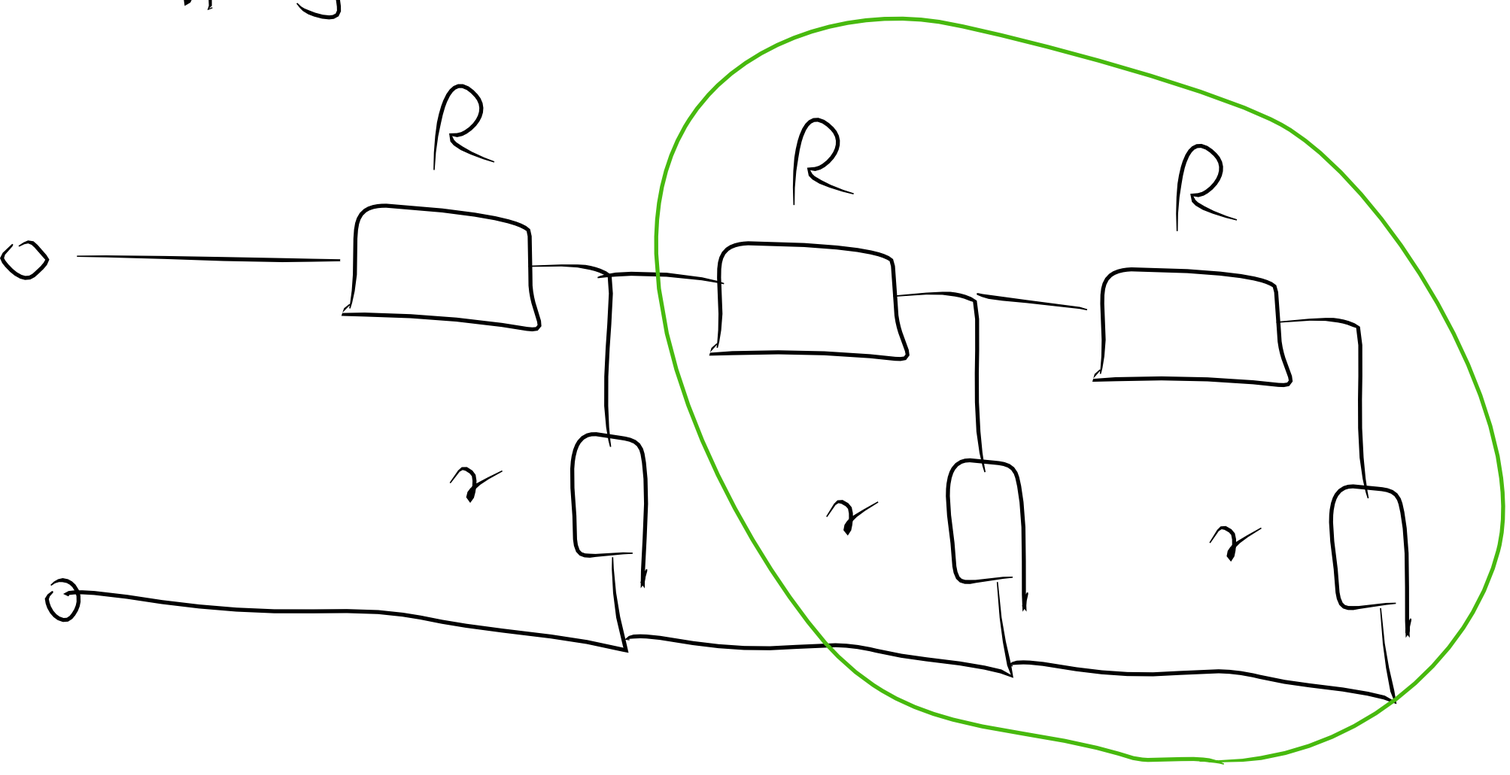
$n = 2$



$$R_2 = R + \frac{(R+r)\,r}{R+r+r}$$

R_1 (nad $(R+r)\,r$), R_1 (pod $R+r+r$)

$n = 3$



$$R + \frac{(R+r)\,r}{R+2r}$$

$$R_3 = R + \frac{r\left(R + \frac{(R+r)\,r}{R+2r}\right)}{r + R + \frac{(R+r)\,r}{R+2r}}$$

R_2 (nad $r\left(R + \frac{(R+r)\,r}{R+2r}\right)$), R_2 (pod $r + R + \frac{(R+r)\,r}{R+2r}$)

$$R_{n+1} = R + \frac{r\,R_n}{r + R_n}$$

$n \to \infty$

$$R_\infty = R + \frac{r\,R_\infty}{r + R_\infty}$$

$$r R_\infty + R_\infty^2 = R r + R R_\infty + r R_\infty$$

$$R_\infty^2 - R R_\infty - R r = 0$$

$R_\infty > 0$

$$R_\infty = \frac{R + \sqrt{R^2 + 4Rr}}{2}$$

dla $r = R$

$$R_\infty = \frac{1+\sqrt{5}}{2} R$$

Created with iDroo.com