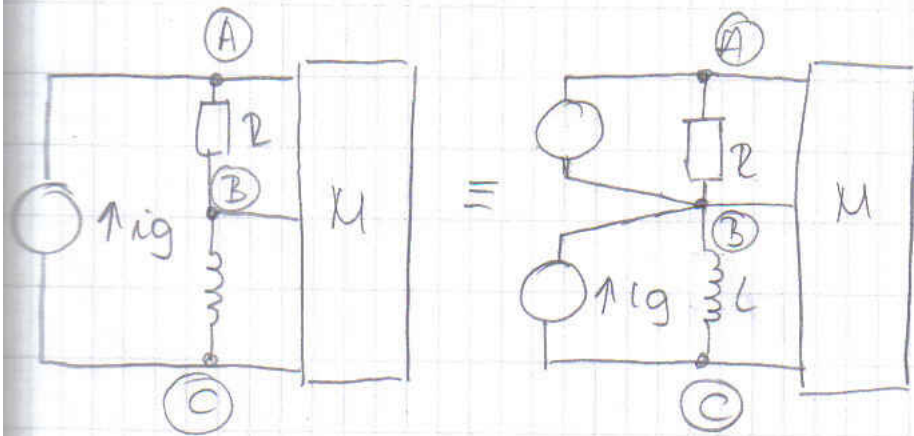
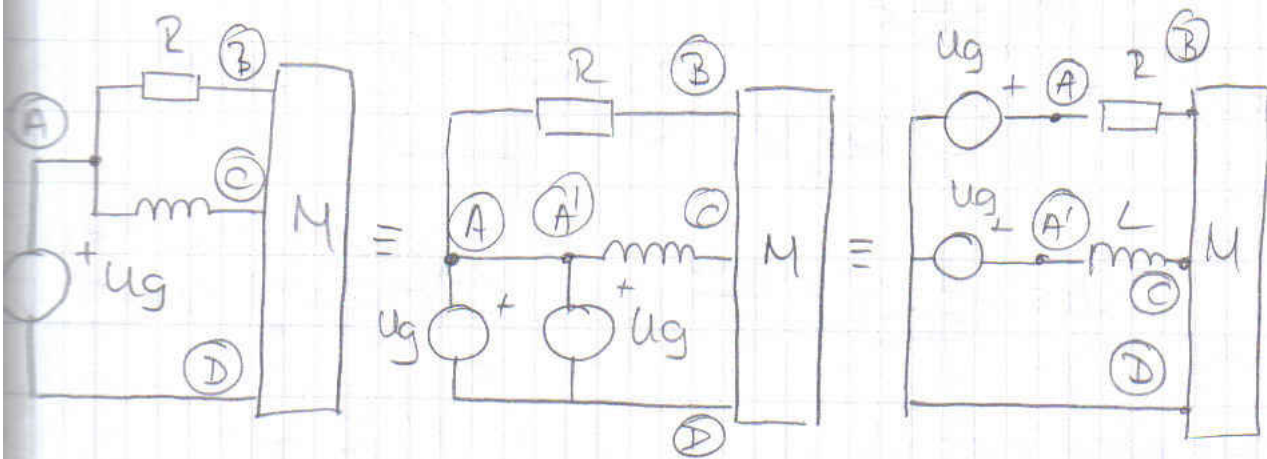
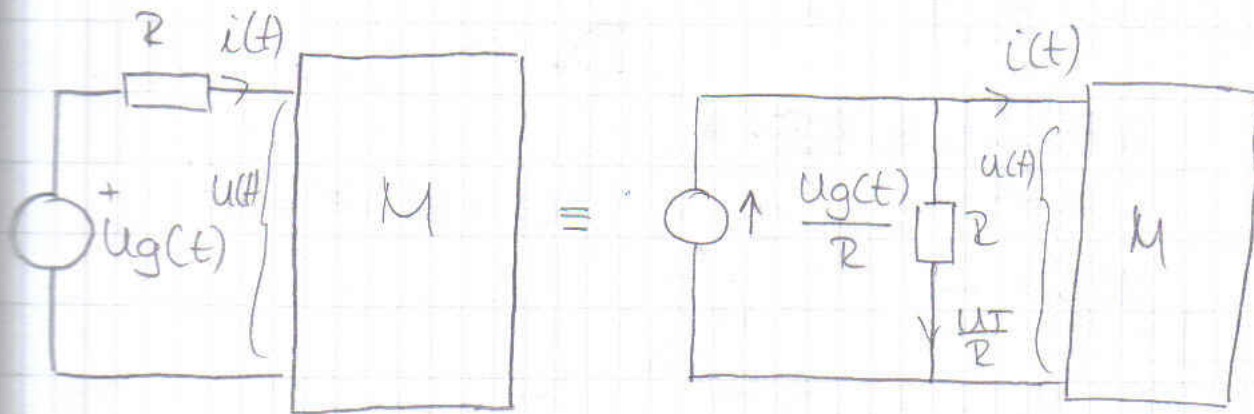


Transformările circuitelor:



$$u(t) \left\{ \begin{array}{l} + \\ \downarrow i(t) \\ L \\ 0 \end{array} \right\} \Rightarrow u(s) \left\{ \begin{array}{l} \downarrow i(s) \\ L \\ \text{circle with } \downarrow \\ \frac{L i_L(0)}{s} \end{array} \right\} \Rightarrow \begin{array}{c} \downarrow i(s) \\ L \\ \text{circle with } + \\ L \cdot i_L(0) \end{array}$$

$$I(s) = \frac{1}{sL} U(s) + \frac{i_L(0)}{s}$$

$$U(s) = sL I(s) - L i_L(0)$$

$$Z(s) = sL \quad Y(s) = \frac{1}{sL}$$

$$u(t) \left\{ \begin{array}{l} + \\ \downarrow i(t) \\ \text{circle with } + \\ C \\ 0 \end{array} \right\} \Rightarrow u(s) \left\{ \begin{array}{l} \downarrow i(s) \\ C \\ \text{circle with } + \\ \frac{U_C(0)}{s} \end{array} \right\} \Rightarrow \begin{array}{c} \downarrow i(s) \\ C \\ \text{circle with } \uparrow \\ C u_C(0) \end{array}$$

$$U(s) = \frac{1}{sC} I(s) + \frac{U_C(0)}{s}$$

$$I(s) = sC U(s) - C u_C(0)$$

$$Z(s) = \frac{1}{sC} \quad Y(s) = sC$$

Rj. jednodřbi preho matrica:

$$\begin{aligned} Ax + By &= E \\ Cx + Dy &= F \end{aligned}$$

$$\begin{bmatrix} A & B \\ C & D \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} E \\ F \end{bmatrix}$$

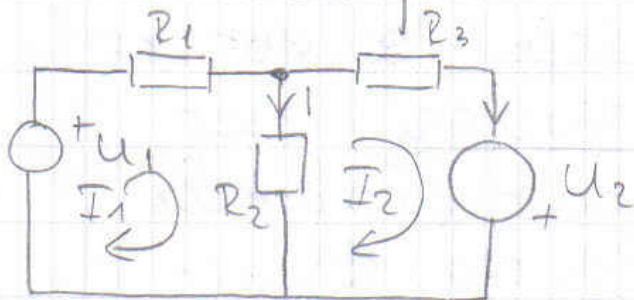
$$\Delta = \begin{vmatrix} A & B \\ C & D \end{vmatrix}$$

$$\Delta_1 = \begin{vmatrix} E & B \\ F & D \end{vmatrix}$$

$$\Delta_2 = \begin{vmatrix} A & E \\ C & F \end{vmatrix}$$

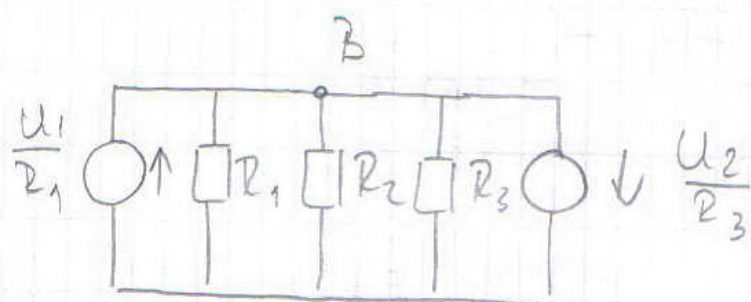
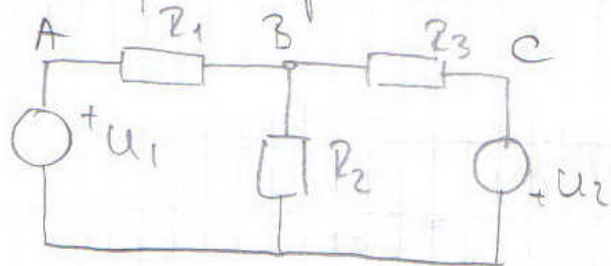
$$x = \frac{\Delta_1}{\Delta} \quad y = \frac{\Delta_2}{\Delta}$$

Konturne struje



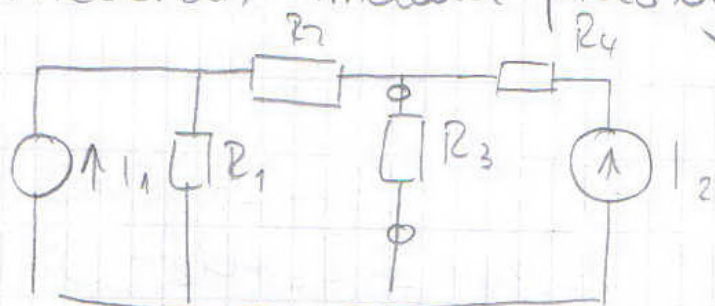
$$\begin{aligned} U_1 - R_1 I_1 - (I_1 - I_2) R_2 &= 0 \\ (I_1 - I_2) R_2 - I_2 R_3 + U_2 &= 0 \end{aligned}$$

Metoda napona čvorova
 ⇒ transf. naponske u strujne izvore

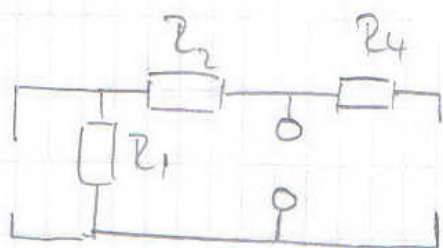


$$I_B \left(\frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3} \right) = \frac{u_1}{R_1} - \frac{u_2}{R_3}$$

Thevenin - metoda praznog noda

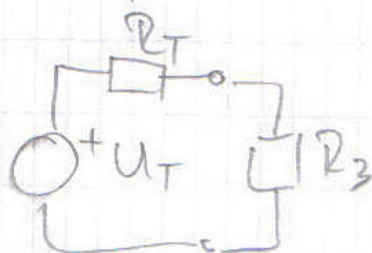


odspoji se npr. R_3 ,
nezavisni izvori
 ugase (naponski
 - kratki spoj, strujni -
 beskon. otpor), izračuna
 otpor takve mreže



$$R_T = R_2 + R_1$$

te izračuna sa upaljenim izvorima napon na
 odspojenom elementu (R_3 npr.)



Norton - kratki spoj

Izražena grana se kratko-spaja, te računa struja, otpor se računa kao i kod Thevenina

Milman \Rightarrow Zbroj struja koje ulaze u čvor kroz sve vodljivosti spajanih na isti čvor \geq potencijal tog čvora

NORMIRANJE

$$R_n = R / R_0$$

$$C_n = \omega_0 \cdot C \cdot R_0$$

$$L_n = \frac{\omega_0 \cdot L}{R_0}$$