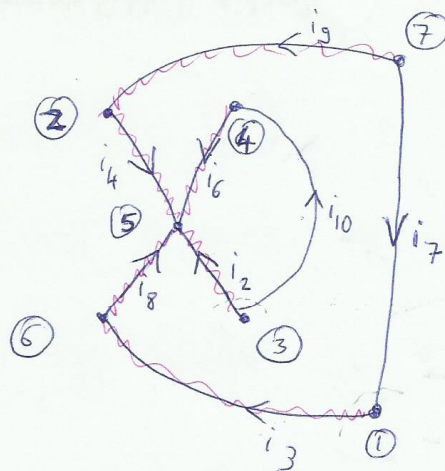


Solutions of HW1

Solution of HW1



$$V_t = \begin{bmatrix} V_2 \\ V_3 \\ V_4 \\ V_6 \\ V_8 \\ V_9 \end{bmatrix} \quad V_l = \begin{bmatrix} V_7 \\ V_{10} \end{bmatrix}$$

Other trees possible!

$$(7) \quad V_7 + V_3 + V_8 - V_4 - V_9 = 0$$

$$(10) \quad V_{10} + V_6 - V_2 = 0$$

$$\begin{bmatrix} V_2 & V_3 & V_4 & V_6 & V_8 & V_9 & V_7 & V_{10} \\ 0 & 1 & -1 & 0 & 1 & -1 & 1 & 0 \\ -1 & 0 & 0 & 1 & 0 & 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} V_2 \\ V_3 \\ V_4 \\ V_6 \\ V_8 \\ V_9 \\ V_7 \\ V_{10} \end{bmatrix} = \begin{bmatrix} 0 \\ 0 \end{bmatrix}$$

B_t

$$(2) \quad i_2 + i_{10} = 0$$

$$(3) \quad i_3 - i_7 = 0$$

$$(4) \quad i_4 + i_7 = 0$$

$$(6) \quad i_6 - i_{10} = 0$$

$$(8) \quad i_8 - i_7 = 0$$

$$(9) \quad i_9 + i_7 = 0$$

$$\begin{bmatrix} i_2 & i_3 & i_4 & i_6 & i_8 & i_9 & i_7 & i_{10} \\ 1 & 0 & 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 1 & 0 & 0 & 0 & 0 & -1 & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 & 0 & -1 \\ 0 & 0 & 0 & 0 & 1 & 0 & -1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 & 1 & 0 \end{bmatrix} \begin{bmatrix} i_2 \\ i_3 \\ i_4 \\ i_6 \\ i_8 \\ i_9 \\ i_7 \\ i_{10} \end{bmatrix} = \begin{bmatrix} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{bmatrix}$$