Problema 1:

$$K=\begin{pmatrix}
1/R3+1/R1 & -1/R1 & 0 & -1/R3 & 0 & 0 & 0 & 0 & 0\\
-1/R1 & 1/R1+1/R4+1/R2 & -1/R2 & 0 & -1/R4 & 0 & 0 & 0 & 0\\
0 & -1/R2 & 1/R2+1/R5 & 0 & 0 & -1/R5 & 0 & 0 & 0\\
-1/R3 & 0 & 0 & 1/R3+1/R6+1/R8 & -1/R6 & 0 & -1/R8 & 0 & 0\\
0 & 1/R4 & 0 & -1/R6 & \frac{1}{R4}+\frac{1}{R6}+\frac{1}{R7}+\frac{1}{R9} & -1/R7 & 0 & -1/R9 & 0\\
0 & 0 & -1/R5 & 0 & -1/R7 & 1/R5+1/R7+1/R10 & 0 & 0 & \frac{-1}{R10}\\
0 & 0 & 0 & -1/R8 & 0 & 0 & 1/R8+1/R11 & -1/R11 & 0\\
0 & 0 & 0 & 0 & -1/R9 & 0 & -1/R11 & \frac{1}{R9}+\frac{1}{R11}+\frac{1}{R12} & \frac{-1}{R12}\\
0 & 0 & 0 & 0 & 0 & -1/R10 & 0 & 1/R12 & \frac{1}{R10}+\frac{1}{R12}
\end{pmatrix}$$

Problema 2:

$$K=\begin{pmatrix}
1/R1 & -1/R1 & 0 & 0 & 0 & 0\\
-1/R1 & 1/R1 & 0 & 0 & 0 & 0\\
0 & 0 & 1/R2+1/R5 & -1/R2 & -1/R5 & 0\\
0 & 0 & -1/R2 & 1/R3+1/R2+1/R6 & -1/R3 & -1/R6\\
0 & 0 & -1/R5 & -1/R3 & 1/R3+1/R4+1/R5 & -1/R4\\
0 & 0 & 0 & -1/R6 & 1/R4 & -1/R4+1/R6
\end{pmatrix}$$

Sustituyendo,

$$K=\begin{pmatrix}
0.33 & -0.33 & 0 & 0 & 0 & 0\\
-0.33 & 0.33 & 0 & 0 & 0 & 0\\
0 & 0 & 1.125 & -1 & -0.125 & 0\\
0 & 0 & -1 & 2.25 & -1 & -0.25\\
0 & 0 & -0.125 & -1 & 1.26 & 0.142\\
0 & 0 & 0 & -0.25 & 0.14 & 0.107
\end{pmatrix}$$

. Haciendo ceros en la 1º fila 2º columna, $K=\begin{pmatrix}
0.33 & 0 & 0 & 0 & 0 & 0\\
0 & 0 & 0 & 0 & 0 & 0\\
0 & 0 & 1.125 & -1 & -0.125 & 0\\
0 & 0 & -1 & 2.25 & -1 & -0.25\\
0 & 0 & -0.125 & -1 & 1.26 & 0.142\\
0 & 0 & 0 & -0.25 & 0.14 & 0.107
\end{pmatrix}$ $K^{-1}=\begin{pmatrix}
3 & 0 & 0 & 0 & 0\\
0 & 5.4 & 4.64 & 3.5 & 6.16\\
0 & 4.64 & 4.7 & 3.5 & 6.5\\
0 & 3.5 & 3.5 & 3.5 & 3.5\\
0 & 6.17 & 6.5 & 3.5 & 19.8
\end{pmatrix}$

$$\begin{pmatrix}V1\\V2\\V3\\V4\\V5\\V6\end{pmatrix}=\begin{pmatrix}
3 & 0 & 0 & 0 & 0 & 0\\
0 & 0 & 0 & 0 & 0 & 0\\
0 & 0 & 5.4 & 4.64 & 3.5 & 6.16\\
0 & 0 & 4.64 & 4.7 & 3.5 & 6.5\\
0 & 0 & 3.5 & 3.5 & 3.5 & 3.5\\
0 & 0 & 6.17 & 6.5 & 3.5 & 19.8
\end{pmatrix}\cdot\begin{pmatrix}I1\\I2\\I3\\I4\\I5\\I6\end{pmatrix}$$

Se consideran $I_1 = I_2 = I_5 = I_6 = 0$, $I_4 = 0.1$, $I_3 = ?$. Solución, $V_1 = V_2 = 0$ $V_{3\to 6} = V_{3\to 6}(I_3)$

Pregunta, se deberían haber hecho ceros la fila 3 y columna 3?
Que significa, que se actualiza el vector de términos independientes, en el pdf adjunto?