Sample 4a Steps

Define the arrays d and a. The array d is the column on the right of the equals signs in the equations. The array a contains the coefficients of the unknown currents in the equations. The first column of the array a contains the coefficients of I_1, the second column contains the coefficients of I_2, etc. The first equation gives the first row of the array a, the second equation gives the second row, etc. If a current does not appear in an equation, its coefficient is 0 on the row of the array.

Equations

$$(R_1+R_2+R_4)I_1 - R_2I_2 = V$$

$$(R_1+2R_2+R_4)I_2 - R_2I_1 - R_2I_3 = 0$$

$$(R_1+2R_2+R_4)I_3 - R_2I_2 - R_2I_4 = 0$$

$$(R_1+R_2+R_3+R_4)I_4 - R_2I_3 = 0$$

```
d = [ V
      0
      0
      0 ]

a = [ R1+R2+R4    -R2             0              0
     -R2           R1+2*R2+R4    -R2             0
      0           -R2             R1+2*R2+R4    -R2
      0            0             -R2             R1+R2+R3+R4 ];
```