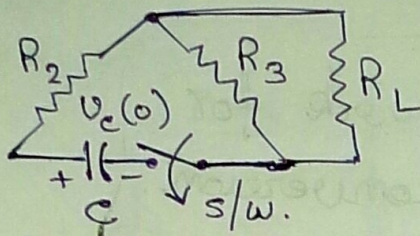


HA #2:

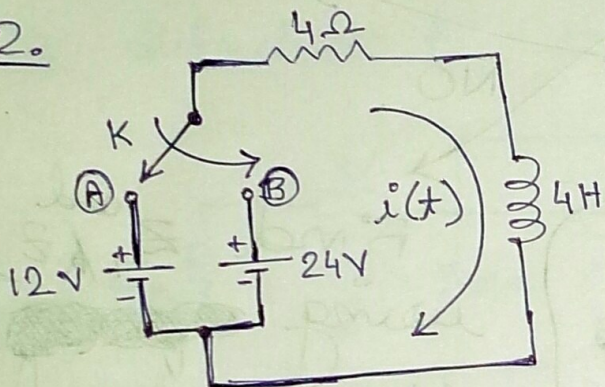
1.



Find the expression for voltage across the capacitor following switching at $t=0$ if the stored initial voltage $V_c(0) = 50V$.

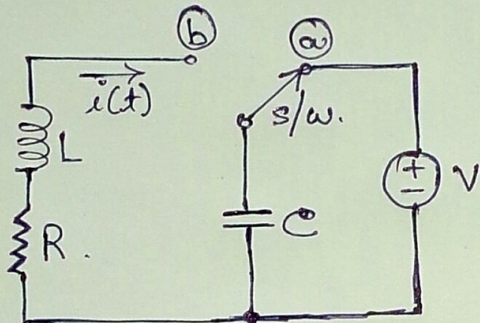
Find the time constant of the discharging circuit. Find $V_c(t=3ms)$ in LT Spice consider $R_3 = R_L = 4\Omega$; $R_2 = 1\Omega$, $C = 100\mu F$.

2.



Find $i(t)$ following switching at $t=0$. In LT Spice, find $i(t=10ms)$, $i(t=2sec)$.

3.

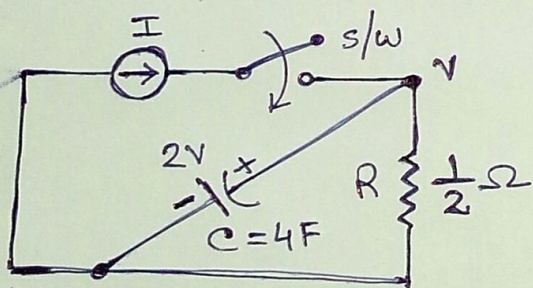


$L = 1H$, $R = 10\Omega$, $C = 0.1F$
 $V = 10V$ volts.

Switch s/w is at a position (a) for a long time and at $t=0$, it is switched to

position (b). Find $i(t)$ for $t > 0$ manually and $i(t=3)$ in LT spice.

4.



If $I = 10A$ and the switching is done at $t=0$, find $v(t)$ for $t > 0$ if the initial capacitor voltage be 2V. (manually)

In LT Spice, determine $v(t=1sec)$