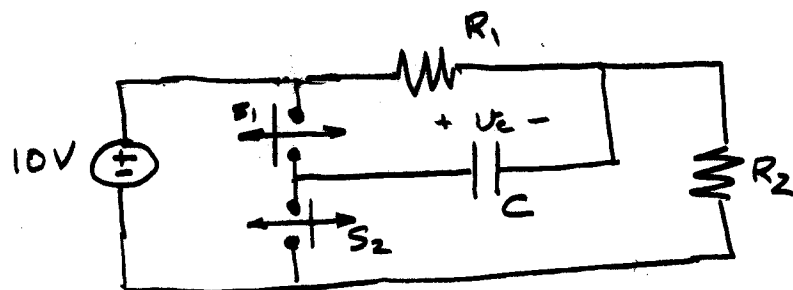


3.3 Circuits With Switching

3.3.1

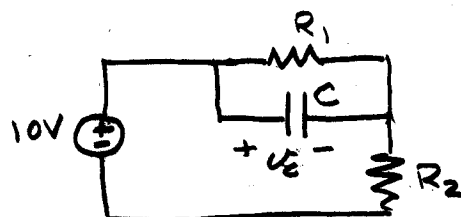
- To introduce the topic, consider this circuit



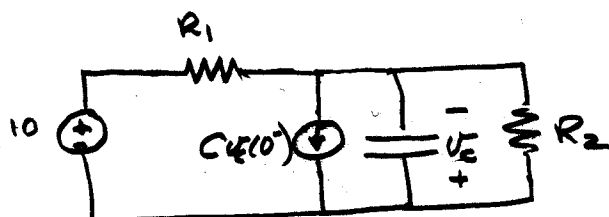
DC & L Fig 14.4.1

Three intervals:

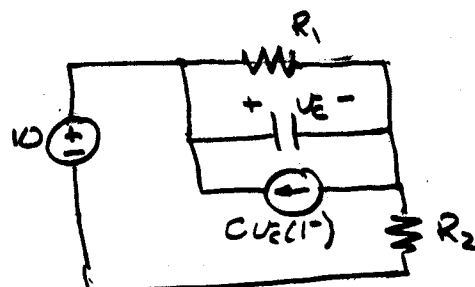
$t < 0$ S_1 closed, S_2 open
solve for $v_c(0^-)$



$0 \leq t < 1$ S_1 open, S_2 closed
IC source $C v_c(0^-)$
solve for $v_c(t)$, $v_c(1^-)$



$1 \leq t$ S_1 closed, S_2 open
IC source $C v_c(1^-)$
solve for $v_c(t')$, where $t' = t - 1$



- Switched capacitor circuits provide precision analog filtering, with pole locations and bandwidth proportional to clock rate.

- Read DC & L 14.7