

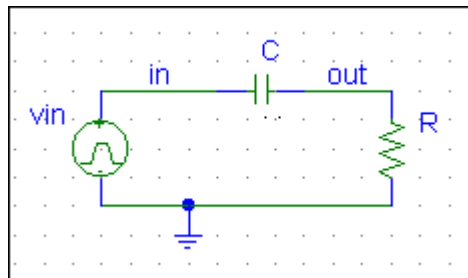
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ENEE 302 Possible to do items.

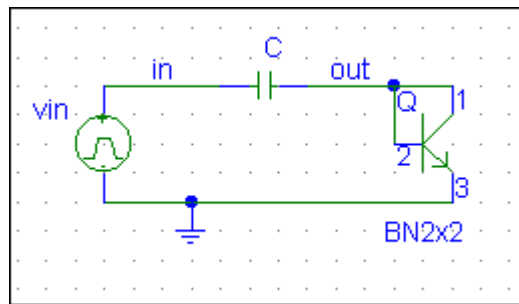
1. For the following circuit calculate analytically the pulse response $v_{out}(t)$ to the pulse $v_{in}(t) = A*[1(t) - 1(t-T)]$, where $1(t)$ is the unit step response. (2.1)

Do this for arbitrary A both positive and negative and for two values of T , one and five time constants.

Assume that the capacitor is initially uncharged at $t=0$. Check this by running Spice.



2. Assuming that the diode connected transistor in the following is ideal, sketch $v_{out}(t)$ for the pulse of (2.1) above. Using $C=1\mu\text{F}$ and $A=2\text{V}$, $T=10\mu\text{s}$ run Spice to check your sketch and explain differences.



3. Repeat 2. on the following two circuits.

