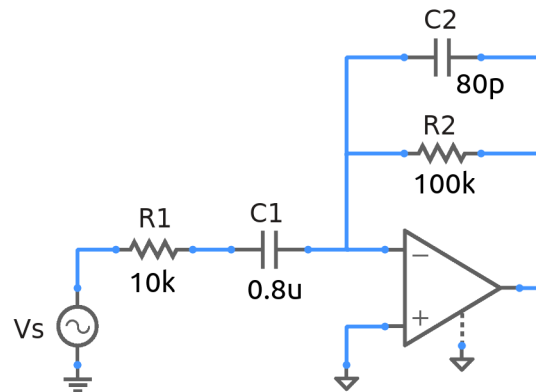


ee101_op_filter_3.sqproj



Ref: S. Franco: Design with Op Amps and analog integrated circuits

Exercise Set

For the band-pass active filter is shown in the figure,

1. Find the transfer function.
2. What is the mid-band gain? What are the low and high cut-off frequencies (f_L and f_H)?
3. For a capacitor, $Z_C \rightarrow 0$ as $f \rightarrow \infty$ and $Z_C \rightarrow \infty$ as $f \rightarrow 0$. In the above filter, there is a range of frequencies (the mid-band region) where C_1 behaves as a short circuit and C_2 as an open circuit. Find the mid-band gain directly from the circuit in this condition.
4. Check your answers against simulation.