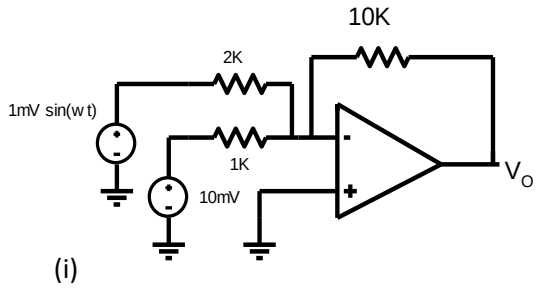
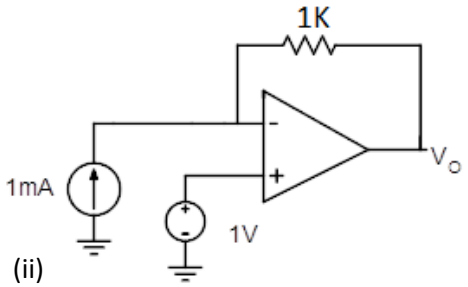
Assignment-8

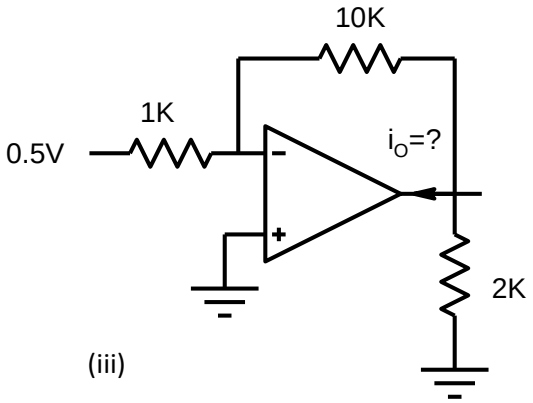
1. Determine the output of the ideal op-amp circuits shown below.



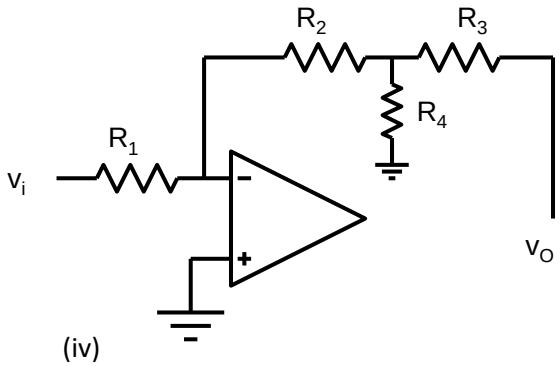
(i)



(ii)



(iii)

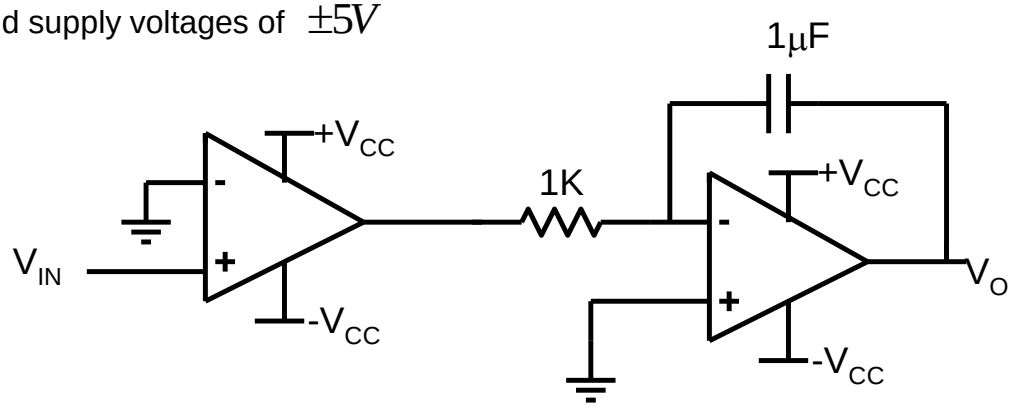


(iv)

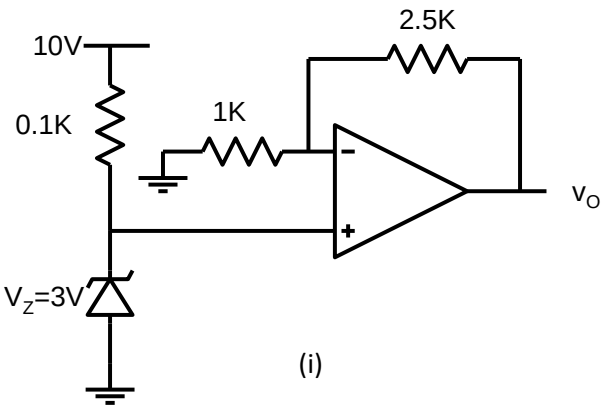
2. Design an op-amp circuit that would generate the following output voltage $V_O = 2v_{s1} + 4v_{s2} - 8v_{s3} - 10v_{s4}$ where v_{s1}, v_{s2}, v_{s3} and v_{s4} are input voltages.

3. Design an op-amp circuit that can produce $V_O = K \times V_{IN}^2$ where V_{in} is the input voltage.

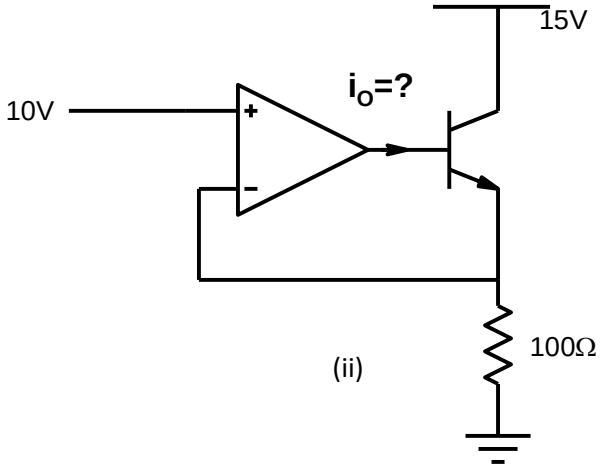
4. Sketch the output voltage of the circuit shown below for $V_{in} = 1V\ Sin(2\pi ft);\ f = 1KHz$ and supply voltages of $\pm 5V$



5. Determine the output for the ideal op-amp circuits shown below. For the transistor assume a current gain of 100. What is the usefulness of each of the circuits?



(i)



(ii)