Laboratory 11: Opamps

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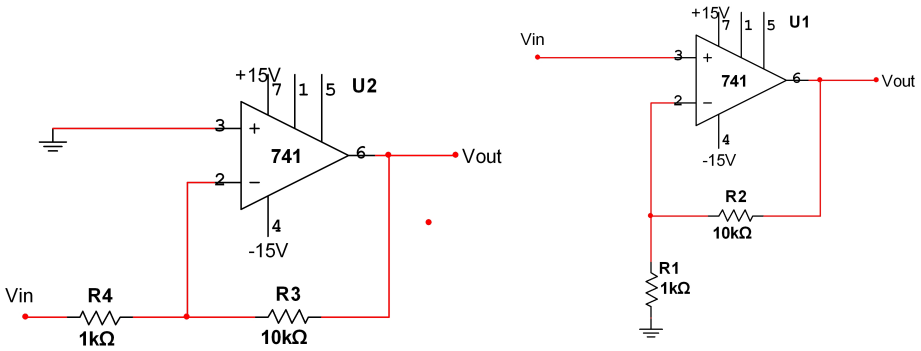
Operational amplifier circuits

The process of providing feedback from output to the input is usually done using operational amplifiers (OPAMPs). It is generally used to make the circuit more linear. OPAMPs can be configured as inverting and non-inverting types.

Build the inverting amplifier as shown in Figure 1 (a). You are allowed to check the datasheet of LM741 to determine the pin configurations. The opamps generally involves atleast two types of BJT or FET circuits in an integrated package. Drive the circuit with an input of $1V_{p-p}$, 1 KHz, sine wave. Make sure that lead no. 3 (+ve) is going to ground and lead no. 7 and 4 are going to +15 V and -15 V power supply. Capture both input and output and determine the gain for this circuit.

Build the non-inverting amplifier as shown in Figure 1 (b). Make sure that lead no. 3 (+ve) is going to the input. Again lead no. 7 is going to +15 V power supply and lead no. 4 is going to -15 V power supply. Capture both input and output and determine the gain for this circuit. There is a differance in gain between inverting and non-inverting amplifier circuit how much is that ?



(a) inverting (b) non-inverting

Figure 1: Schematic showing Opamps inverting and non-inverting amplifier circuits.