

# Non-inverting Operational Amplifier

## Student Group

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## Non-inverting Operational Amplifier

### Op-Amp as current source

An Op-Amp can not only amplify voltages and currents, it can also act as a current source itself. Here is the schematic of a typical Op-Amp current source:

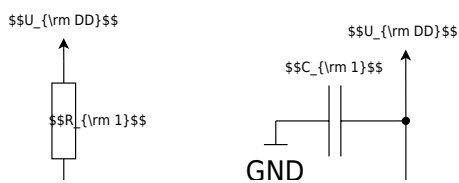


Fig. 1: Non-inverting Op-Amp: current source

$U_{DD} \approx 10\text{V}$ ,  $U_{SS} \approx -10\text{V}$ ,  $R_1 \approx 100\text{k}\Omega$ ,  $R_2 \approx 10\text{k}\Omega$ ,  $R_3 \approx 100\Omega$ ,  $D_1 \approx 100\text{nF}$ ,  $D_2 \approx 100\text{nF}$

Measure the values given in the table below.

Potentiometer	$U_{R2}$	$U_{R3}$	$I_{OUT}$	$U_{OUT}$	$I_{OUT}$	$U_{OUT}$
0%						
50%		...				

Tab. 1: Op-Amp as current source: measured and calculated values

Why does the current remain constant at the output of the Op-Amp?  
 Give a brief explanation of the circuit's operating principle.

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