# 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:

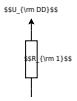


Fig. 1: Non-inverting Op-Amp: current source

$U_{\rm DD}{\rm~=10~V},~U_{\rm SS}{\rm~=-10~V},~R_{\rm 1}{\rm~=100~k\Omega},~R_{\rm 2}{\rm~=10~k\Omega},~R_{\rm 3}{\rm~=100~\Omega}$

Measure the values given in the table below.

| Potentiometer | \(U_{\rm R2}\) | \(U_{\rm R3}\) | \(I_{\rm OUT}\)... | \(U_{\rm OUT}\)w... | \(I_{\rm OUT}\)... | \(U_{\rm OUT}\)... | \(I_{\rm OUT}\)... | \(U_{\rm OUT}\)... |
|---|---|---|---|---|---|---|---|---|
| 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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