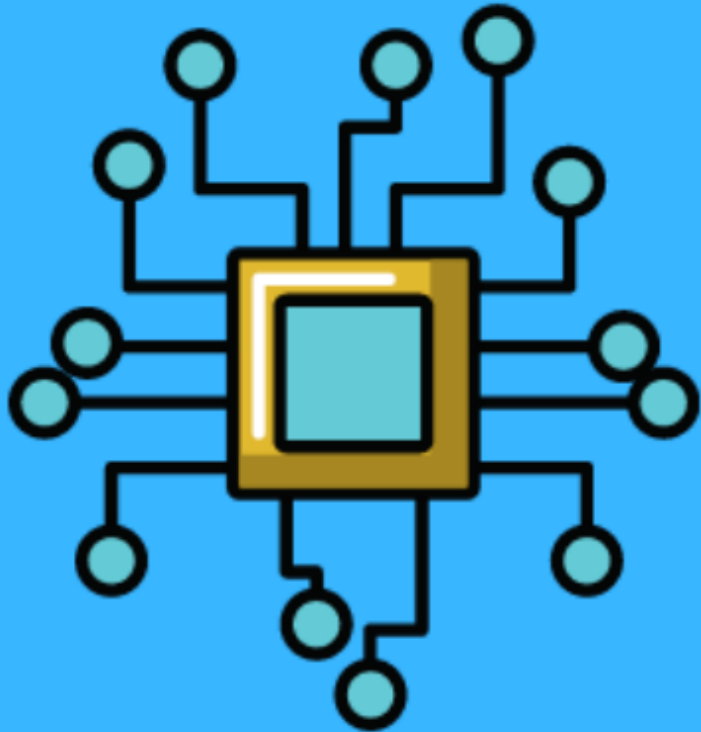


Electronics



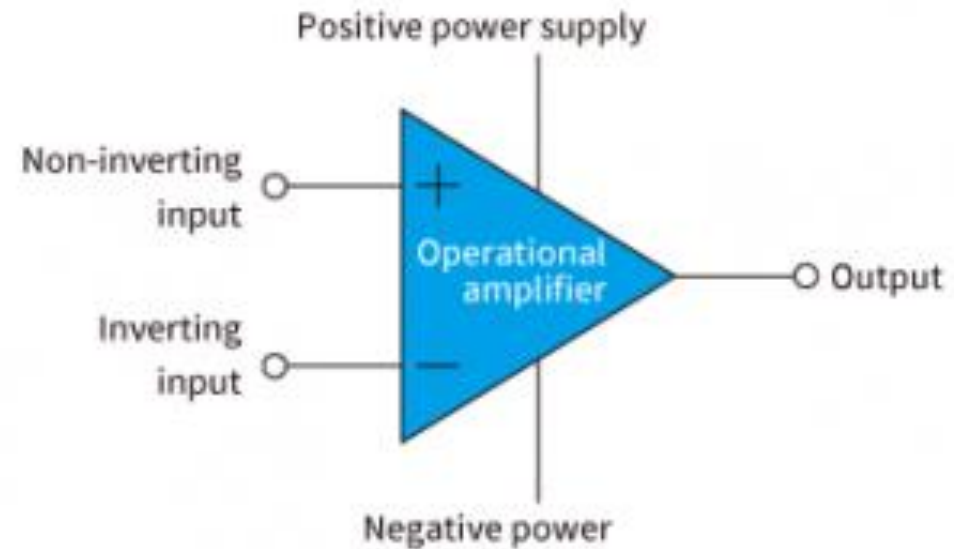
Lab 7 & 8

Operational Amplifier (Op-amp)

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What is an Operational Amplifier (Op-amp)?

- An **operational amplifier** is an integrated circuit that can amplify weak electric signals, has two input pins and one output pin. Its basic role is to amplify and output the voltage difference between the two input pins.

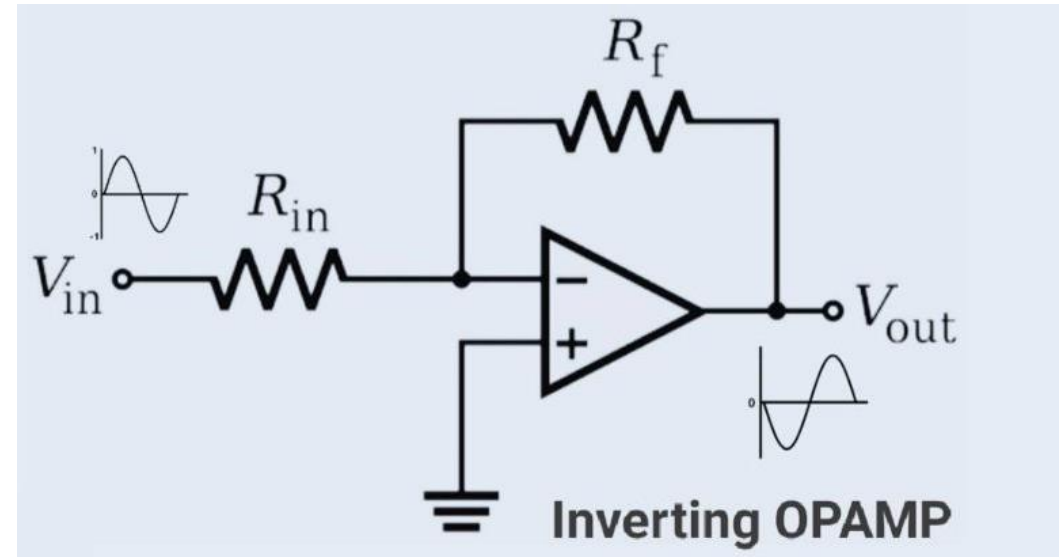


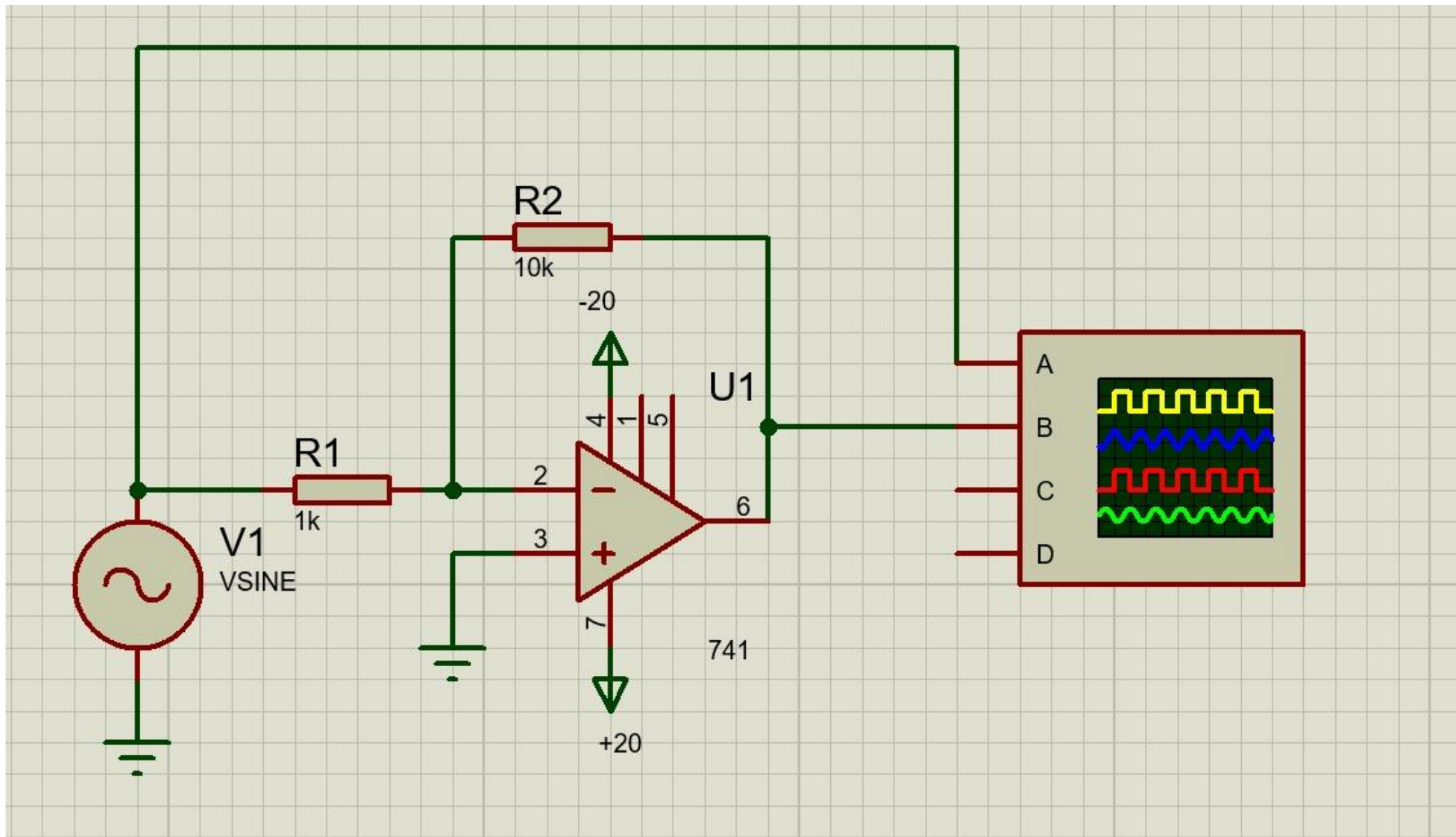
Operational Amplifier Applications

1. Inverting amplifier circuit

An inverting amplifier circuit is indicated by a minus sign. If the V_{IN} voltage increases, the V_{OUT} voltage decreases.

$$V_{OUT} = - (R_f / R_{in}) \times V_{IN}$$

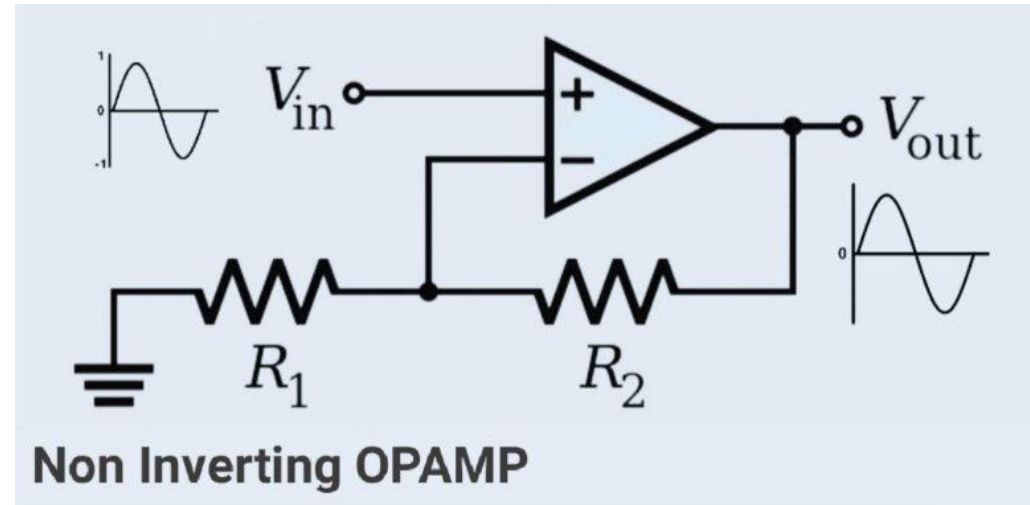


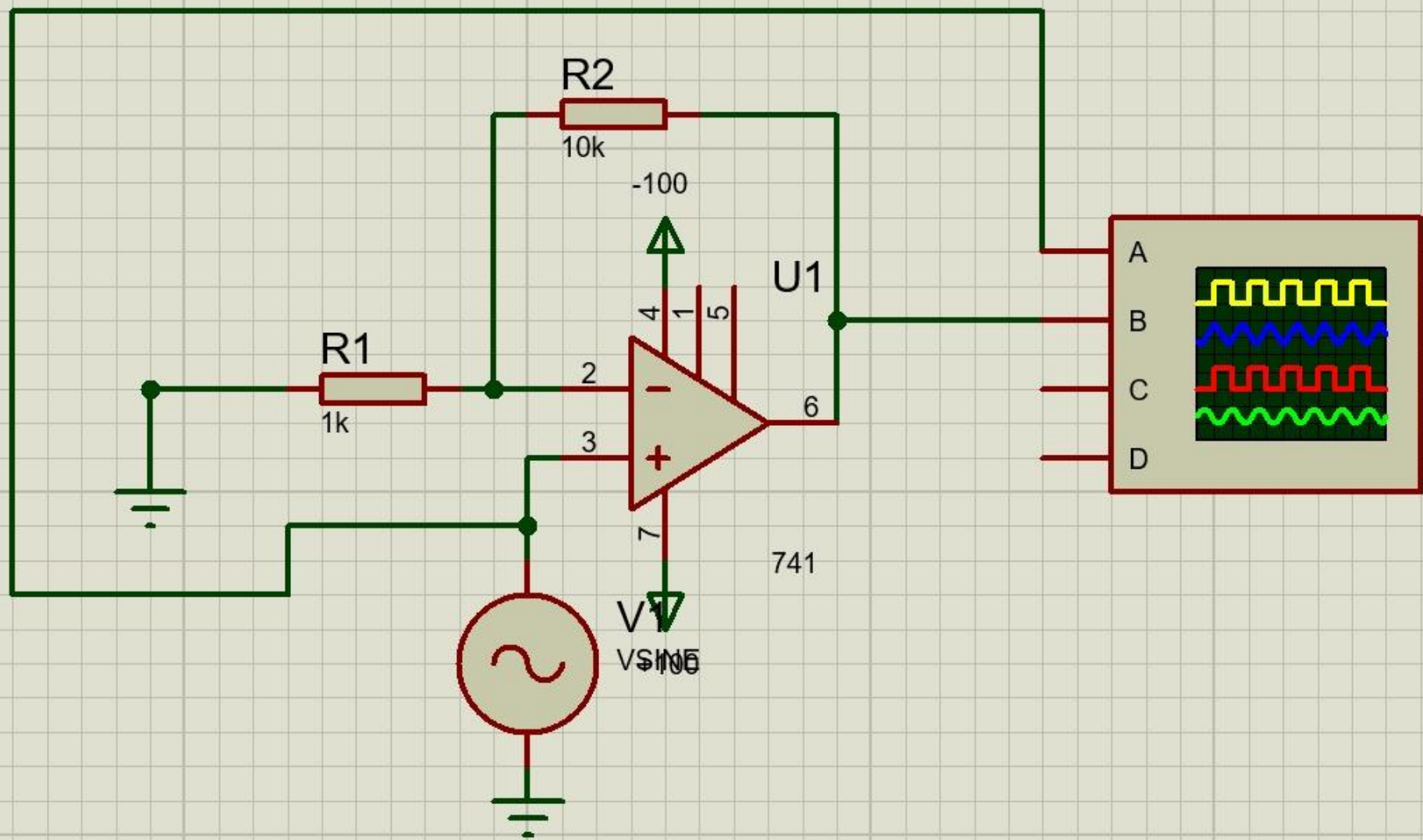


Operational Amplifier Applications

2. Non-Inverting amplifier circuit

$$V_{OUT} = (1 + R_2 / R_1) \times V_{IN}$$





Enjoy
with
your
Design

**Thank
You**