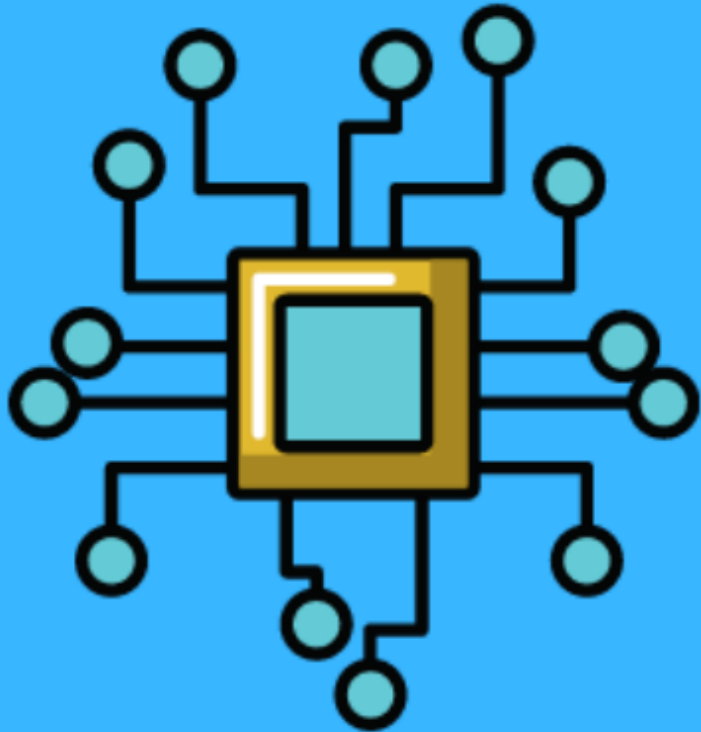


Electronics

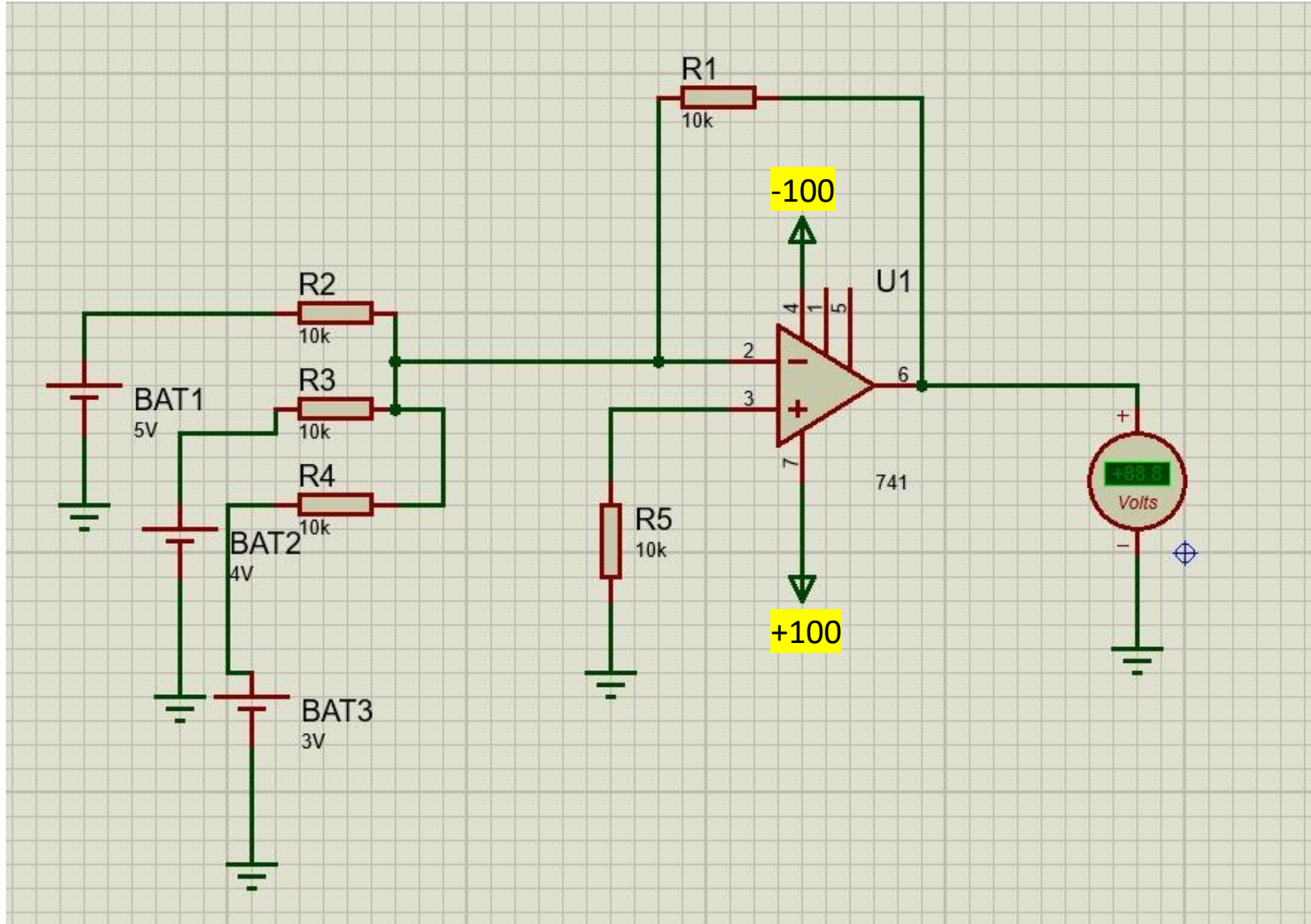


Lab 9

Op-amp Applications - (Summing)

Eng. Mohamed Goda
Eng. Manar Ibrahim
Eng. Ismail Ahmed

(Op-amp) - summing circuit



Equation

$$V_{\text{out}} = - [R1/R2] * V1 + [R1/R3] * V2 + [R1/R4] * V3$$

$$V_{\text{out}} = - [10\text{k}/10\text{k}] * 5 + [10\text{k}/10\text{k}] * 4 + [10\text{k}/10\text{k}] * 3 = - 12 \text{ V}$$

Enjoy
with
your
Design

**Thank
You**