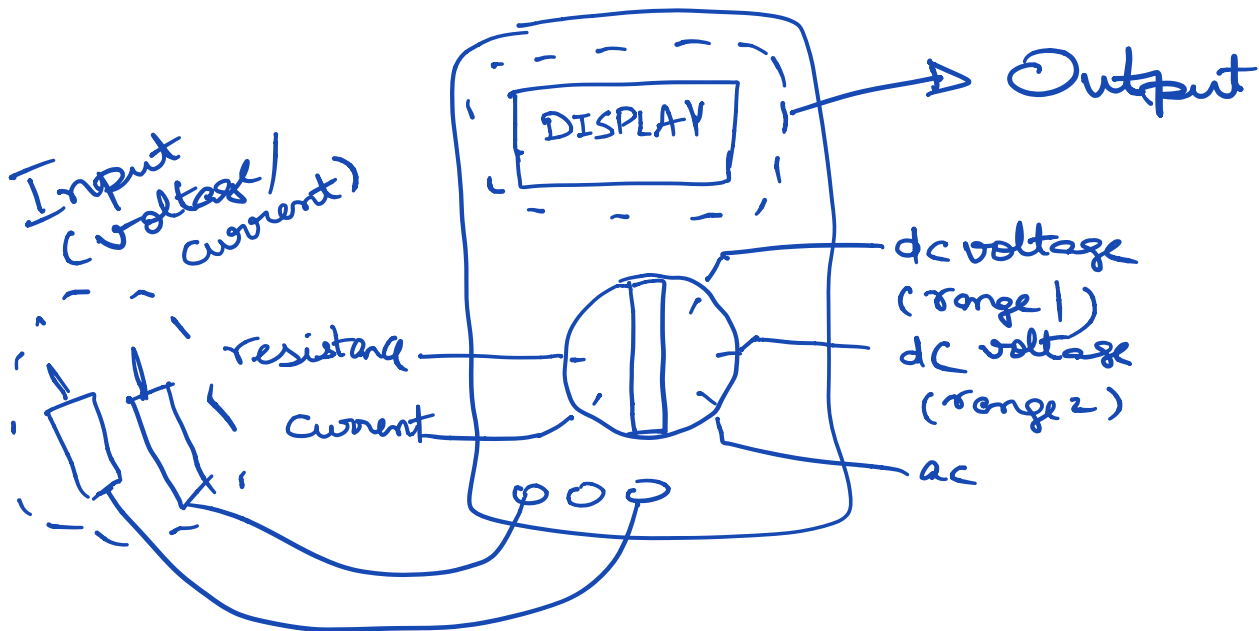


02.01.2019

ELL 301

Digital Multimeters

- ↳ dc voltage
- ac voltage
- current
- resistance
- capacitance
- diode
- rms
- ...

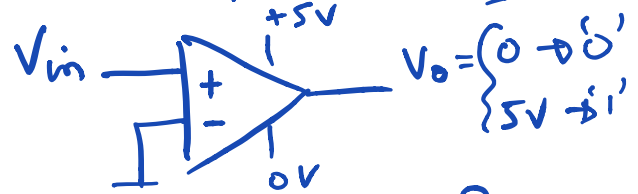


② Convert all inputs into dc voltage
(ac voltage, current...)

③ Other functions:
Zeroing, Polarity detection

① Analog to Digital Converter (ADC)

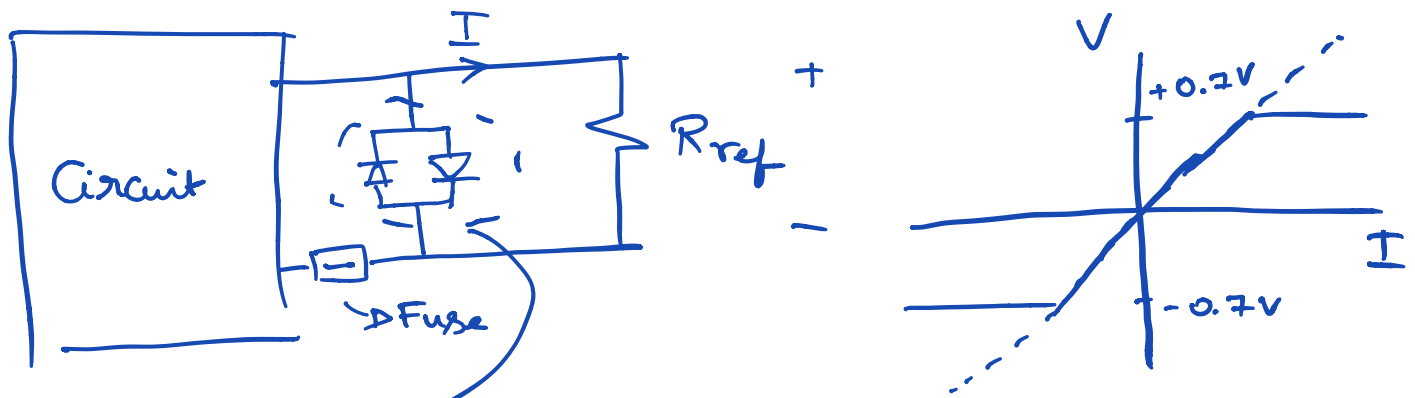
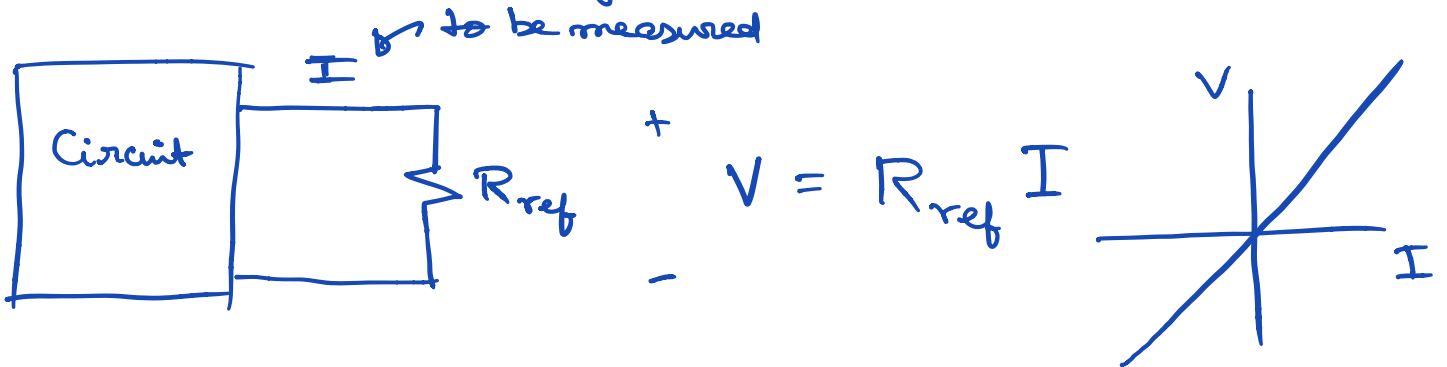
[Sample & Hold]



How is this done?

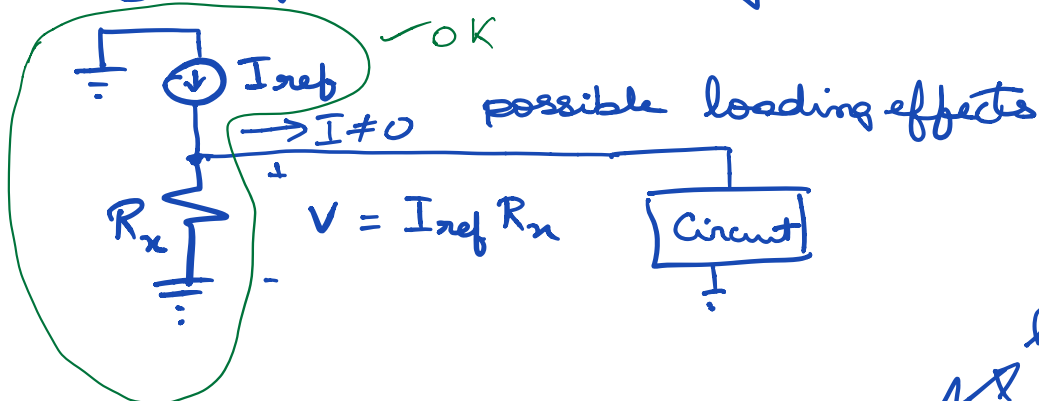
How to convert different quantities into dc voltage?

Current \rightarrow Voltage?



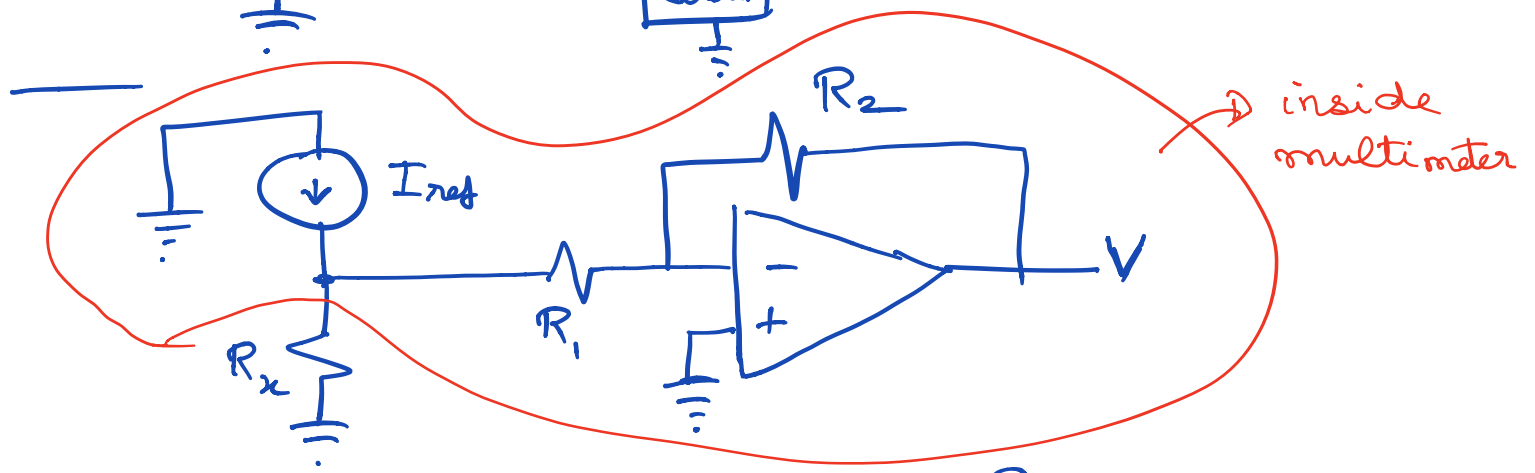
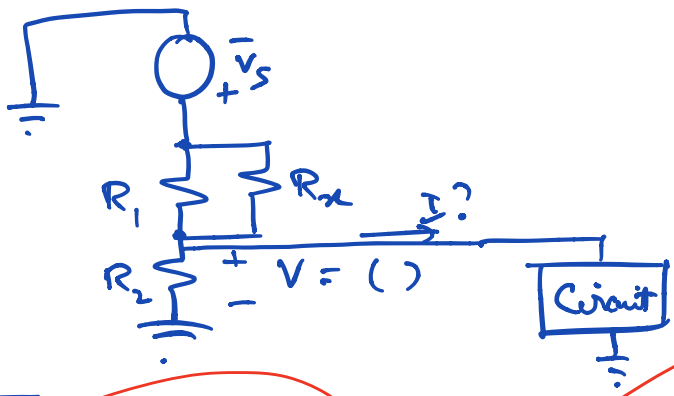
This is for overload protection. When voltage increases, one of the diodes becomes a short circuit and limits the voltage.

Resistance \rightarrow voltage?



high input R
low output R

How to add an op-amp to this idea to reduce loading effect?



How does V depend on R_x ?