

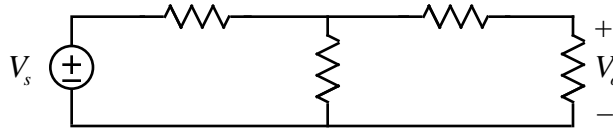
# ECE 257 - LESSON 12 PRACTICE WITH FUNCTIONS

SPRING 2007

A.P. FELZER

## IN CLASS

1. From ECE 109 we know that the output of a resistor circuit like the following with one source



is proportional to the input with

$$V_o = GV_s$$

Write a well documented program with a friendly interface that calculates  $G$  for a given circuit from measured data supplied by the user. And then calculates  $V_o$  for values of  $V_s$  supplied by the user

Your program should contain and manage the following functions:

- Function 1: Input measured data values of  $V_o$  and  $V_s$  for calculating  $G$
- Function 2: Calculate  $G$  from the input data and then output the result to the user
- Function 3: Ask the user for a new value of  $V_s$
- Function 4: Calculate  $V_o$  for the new  $V_s$
- Function 5: Output the calculated value of  $V_o$

Test your program by calculating  $G$  for the measured data

$$V_s = 5 \text{ volts}$$

$$V_o = 3.2 \text{ volts}$$

and then using your  $G$  to calculate  $V_o$  for the input

$$V_s = 4.4 \text{ volts}$$

and then verifying that your program gives the same answers