# *AHP -4*

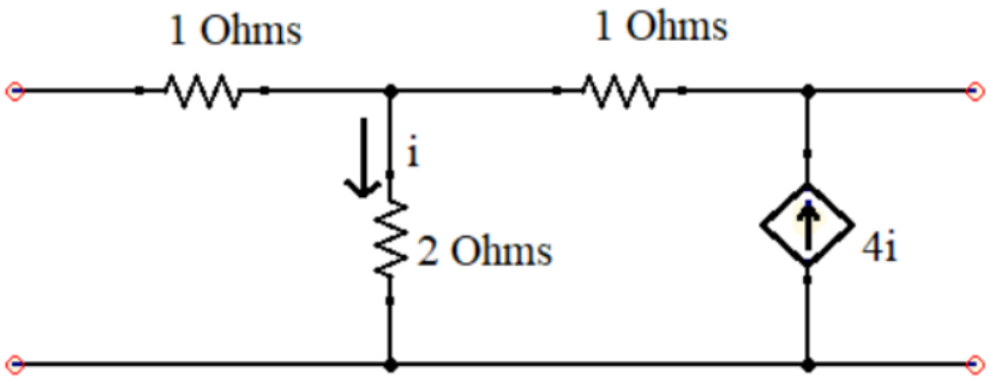
**-Achyuth SS**

**-PES1UG21EC010**

1. For the Two-port network given below perform the following. Only employ open circuit or short circuit Analysis

a. Find the z-parameters
b. Find the y-parameters
c. Find the h-parameters
d. Find the t-parameters

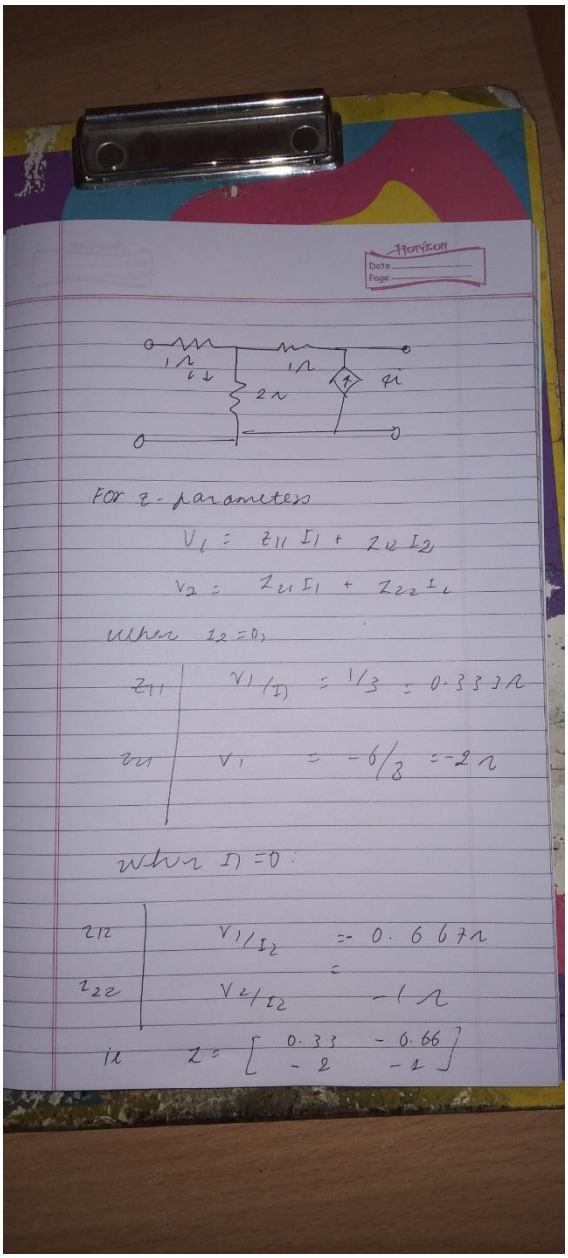
Verify your results by simulating on QUCS. Simulations are performed using DC sources & probes.



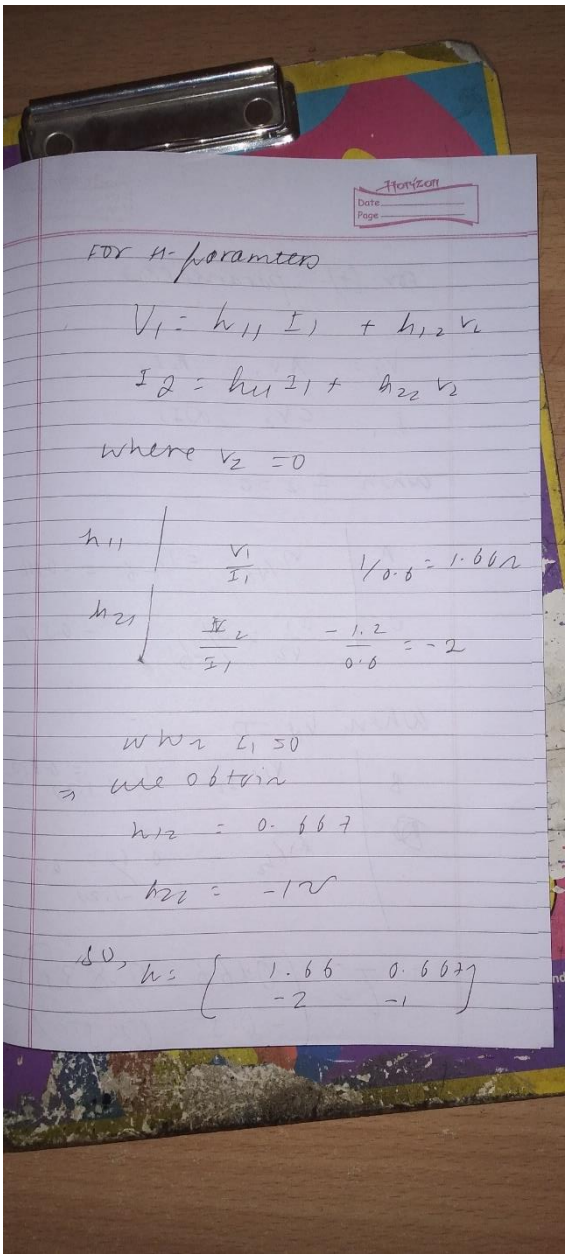

Soln:

Manual solution:

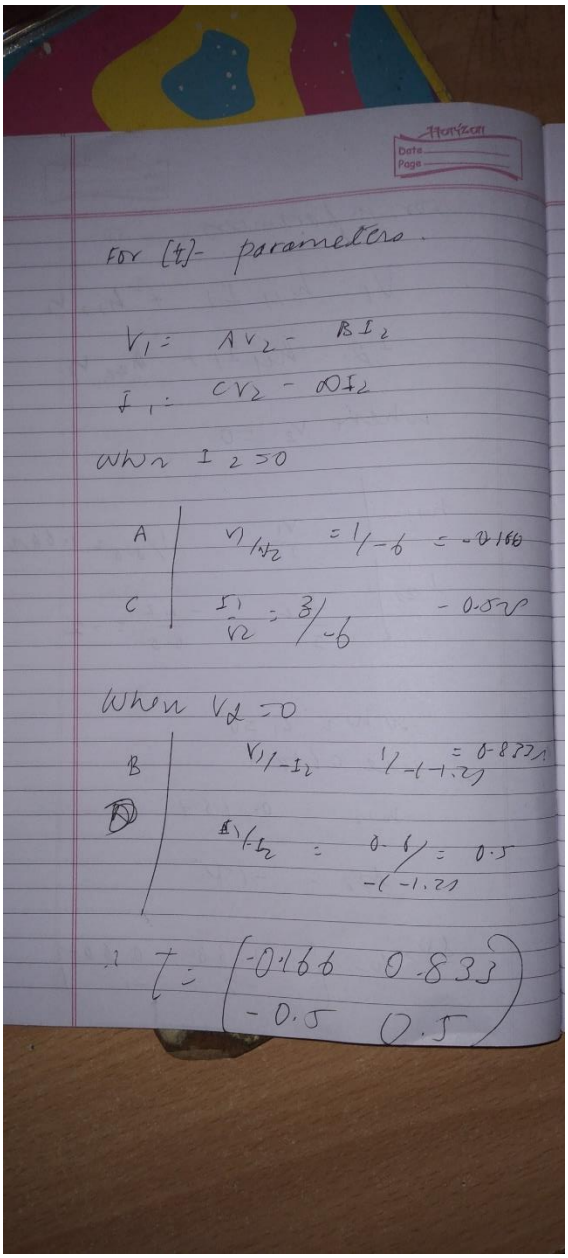
a. z-parameters



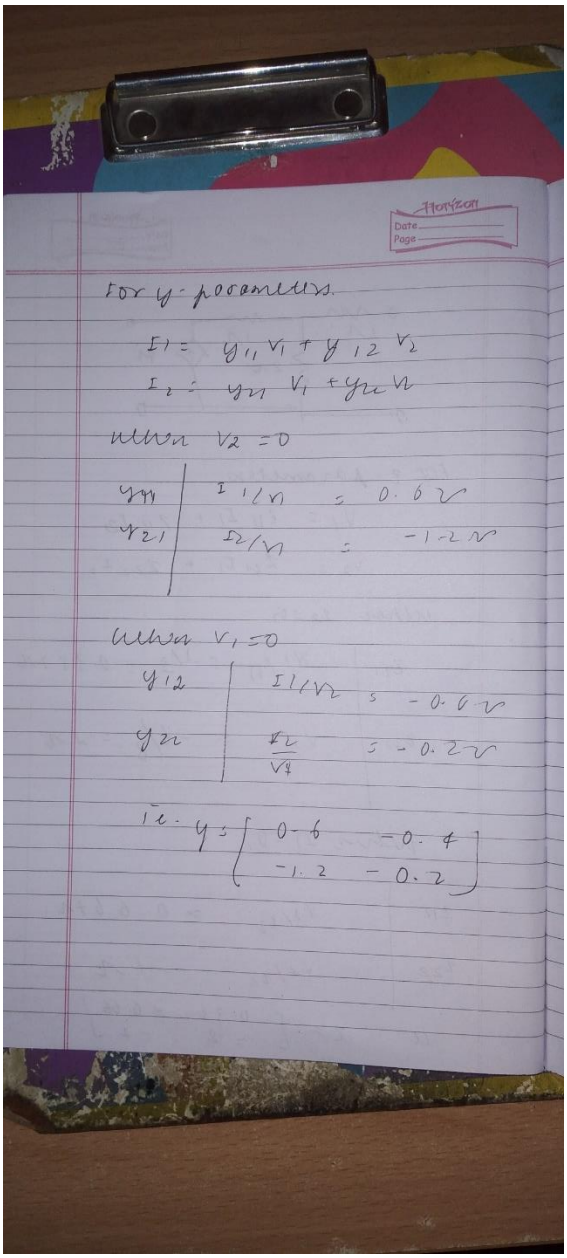

b. h-parameter




c. T-parameters



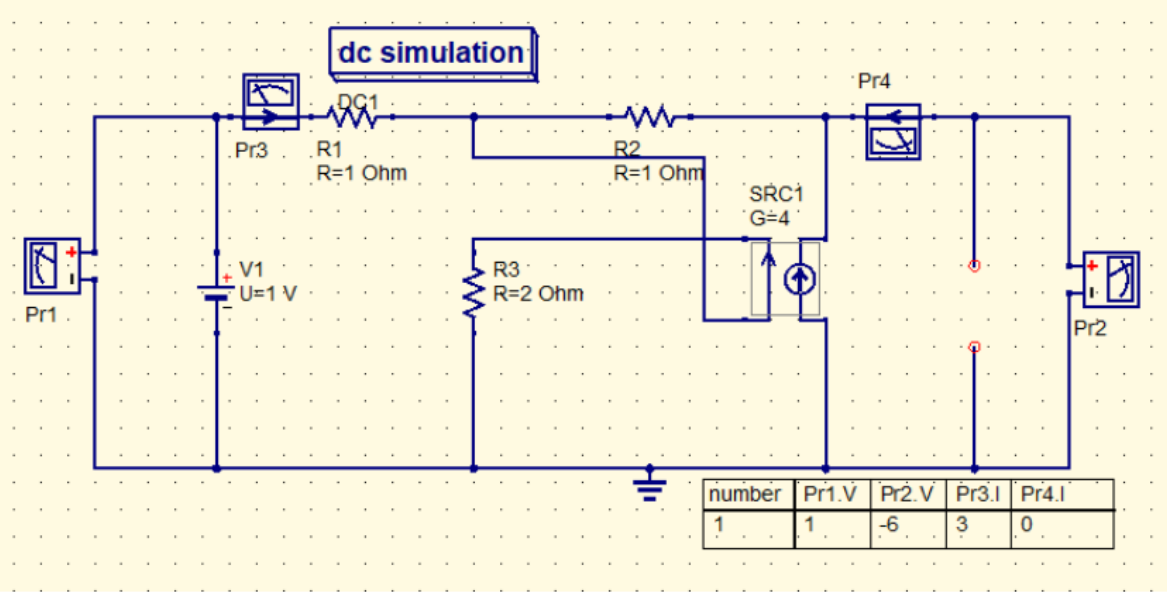

d. y-parameters



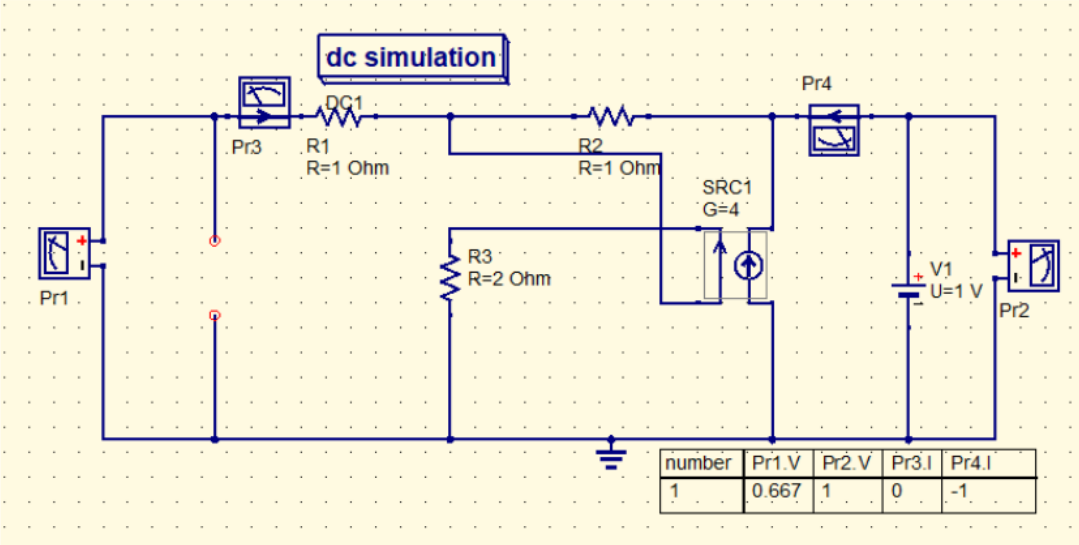

QUCS solution:

a. z-parameters

When I2 is zero (open circuited)

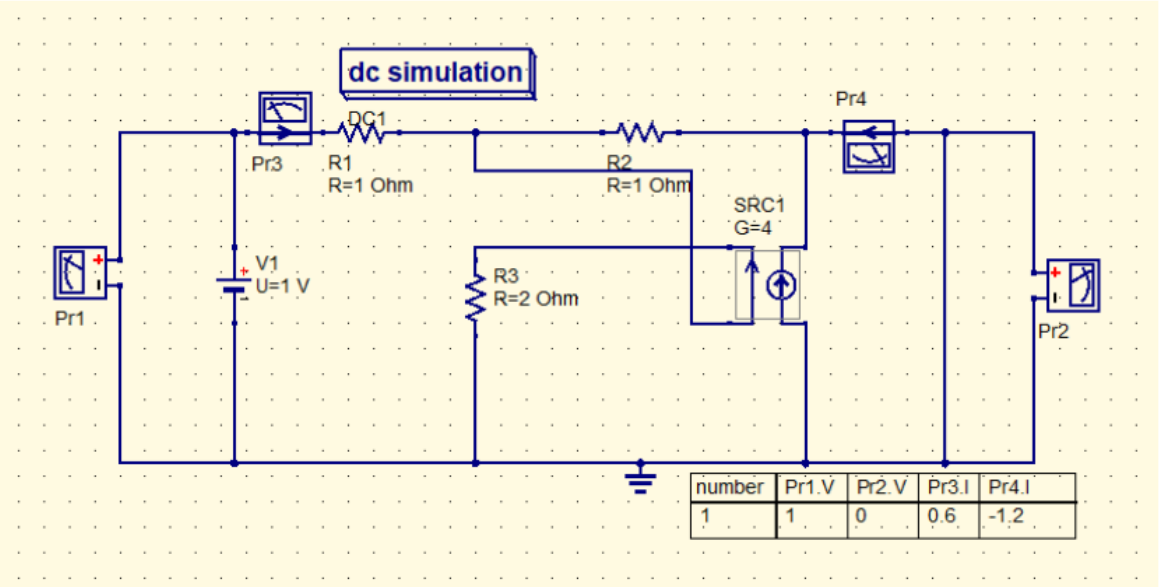



When I1 is zero (open circuited)



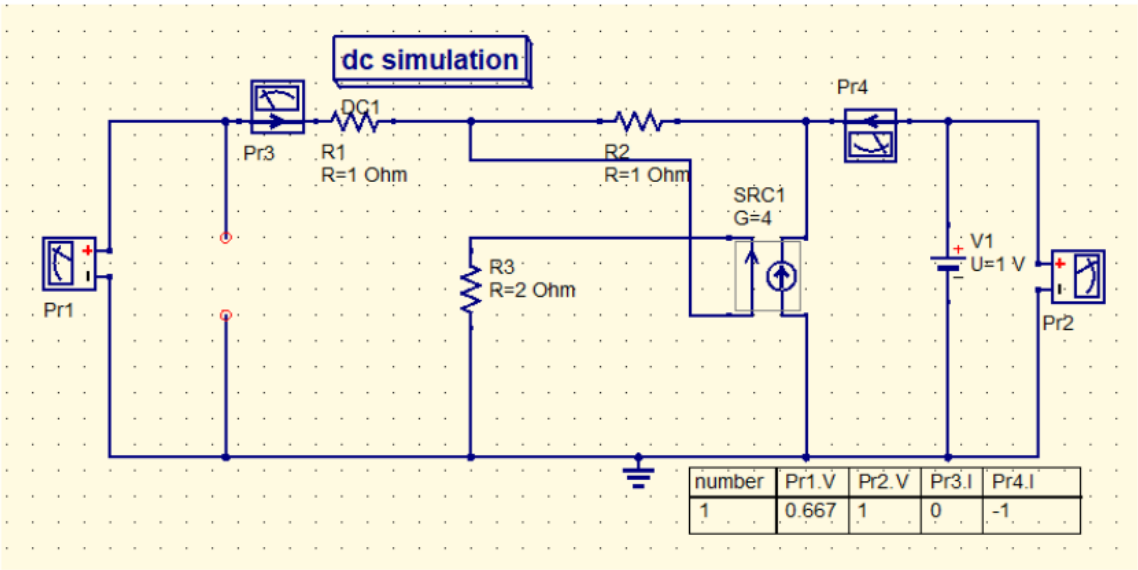

b. h-parameter

When V2 is zero (short circuited)




| number | Pr1.V | Pr2.V | Pr3.I | Pr4.I |
|---|---|---|---|---|
| 1 | 1 | 0 | 0.6 | -1.2 |

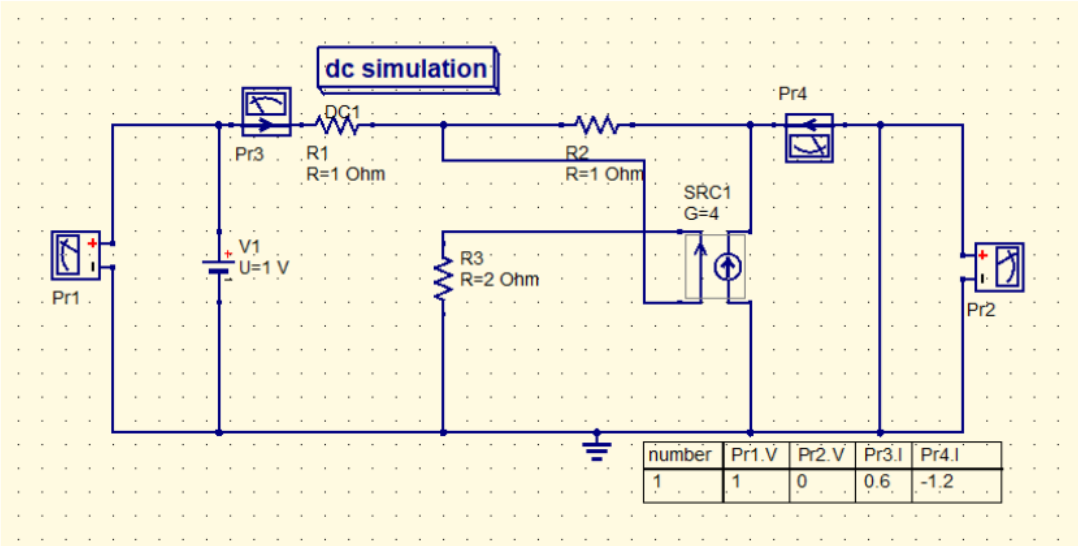
When I1 is zero (open circuited)



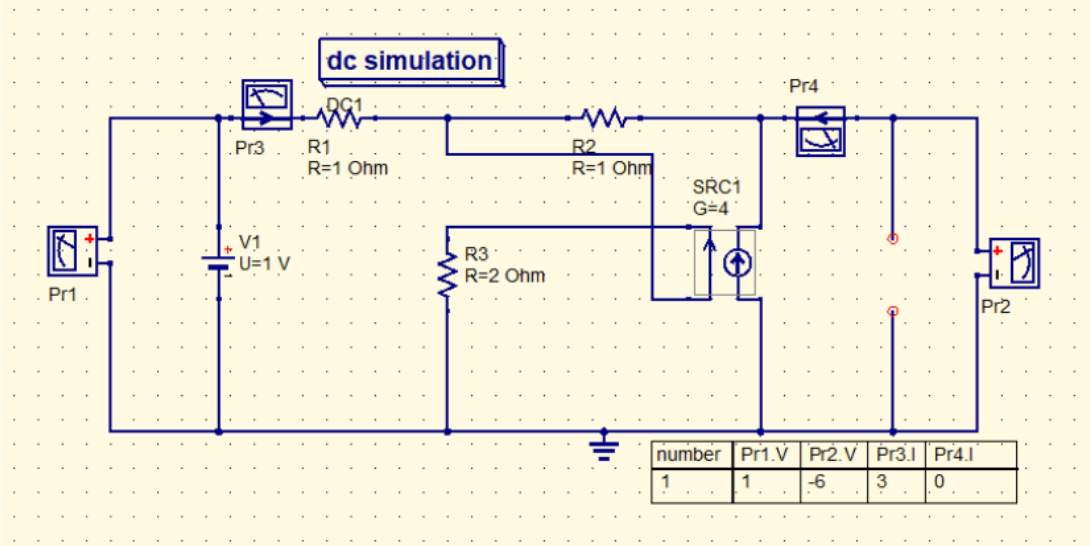

| number | Pr1.V | Pr2.V | Pr3.I | Pr4.I |
|---|---|---|---|---|
| 1 | 0.667 | 1 | 0 | -1 |

c. T-parameters

When V2 is zero (short circuited)

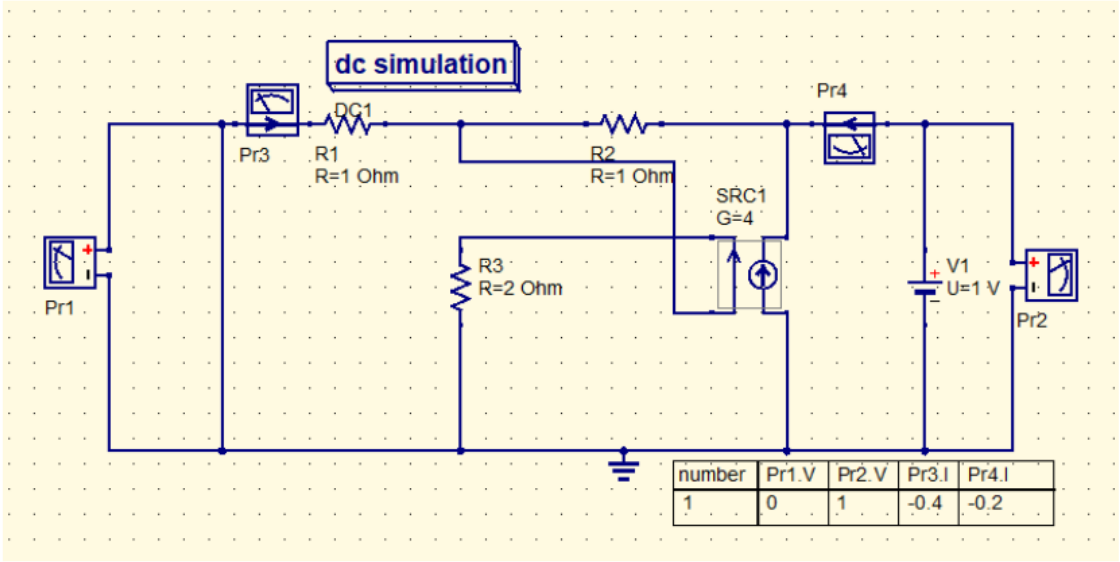



When I2 is zero (open circuited)




d. y-parameters

When V1 is zero (short circuited)




When V2 is zero (short circuited)