1 Method for Solving Diode Circuits

a. Draw the circuit. Annotate currents and voltages.
b. Write KVL and KCL equations.
c. Choose a device model for each diode.
d. For some input values ($v_{in} = \pm \infty$), pick operating conditions.
e. Solve equations (find all currents and voltages).
f. Check that your solution matches your picked operating conditions.

2 Objectives

a. Annotate circuits using voltage arrows.
b. Write loop equations using “modified” KVL.
c. Use intuition to pick correct operating condition for each diode, with high probability.
d. Use previous calculations to infer intermediate operating conditions of diodes.

3 Exercise

a. Problem 4.4(k). Add a 2 kΩ-resistor between $D_2$ and ground. Assume $D_1$ is ideal model and $D_2$ is 0.7 V CVD model.
"We're all doomed" – February 6, 2008


"Crushing the Dream" – February 8, 2008