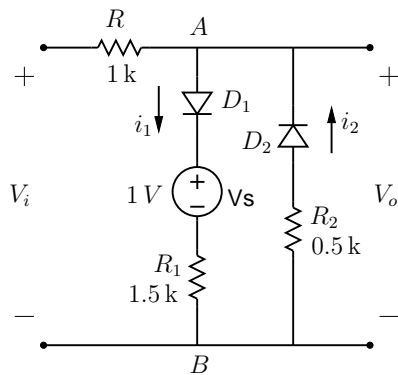# ee101_diode_circuit_1a.sqproj

Shown in the figure is a diode circuit example to illustrate the basic operation of diode clipping circuits. Assume the turn-on voltage of the diodes to be $0.7\,V$, the on resistance to be small, and the off resistance to be large.

Exercise Set

1. Sketch V_o versus V_i for the circuit. Compare your result with simulation.

2. How will the V_o versus V_i curve be affected with the following changes (keeping all other component values the same as in the figure)?

   (i) R is changed from $1\,k$ to $2\,k$?

   (ii) R_1 is changed from $1.5\,k$ to $0.5\,k$?

   (iii) R_2 is changed from $0.5\,k$ to $1\,k$?

   (iv) The polarity of the source Vs is reversed?

   (v) The diode D_2 is reversed?

3. For a triangular input V_i going from $-5\,V$ to $5\,V$, with a frequency of $1\,kHz$, sketch V_o versus time. Verify with simulation.