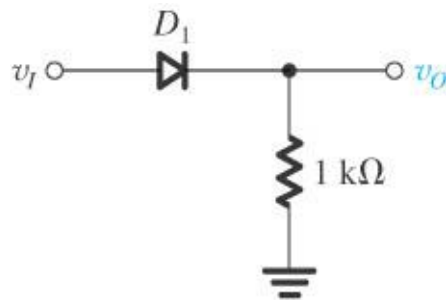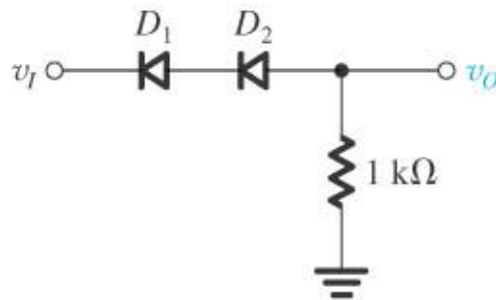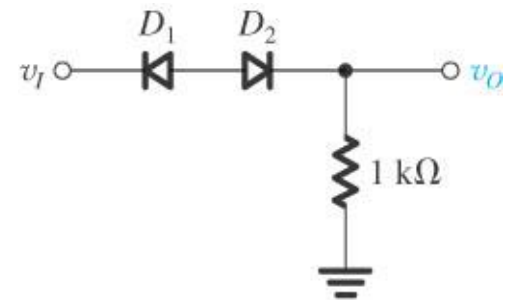# Exercices

- Ideal diode with $V_T = 0$ V
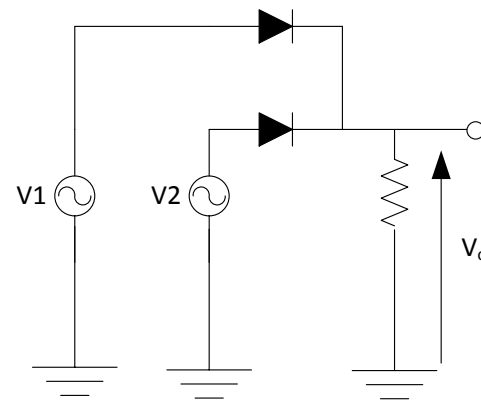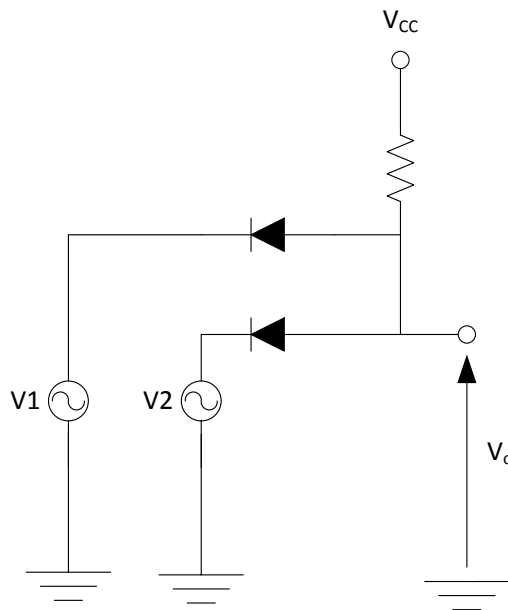- v_I is a 10-V peak sine wave
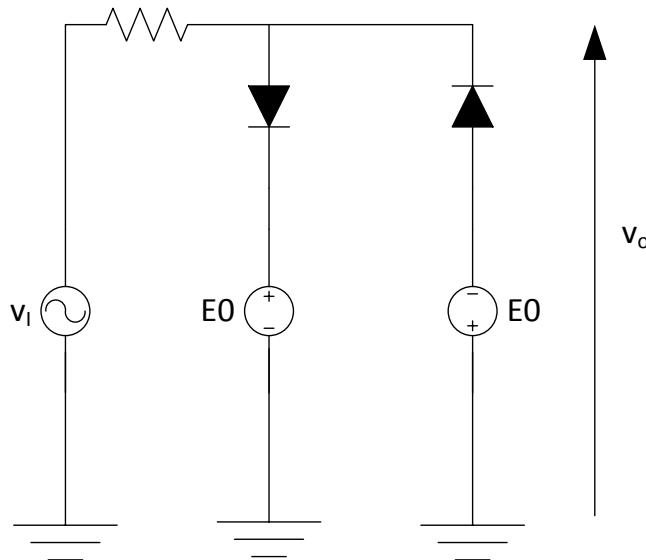- v_O ?

(a) (b) (c)

Exercices

Logic functions

- Assume diodes perfect ($V_T = 0$)
- V1 and V2 can be equal to 0 or V_{CC}
- V_o(V1,V2) ?
- Which logic functions are implemented in both cases ?
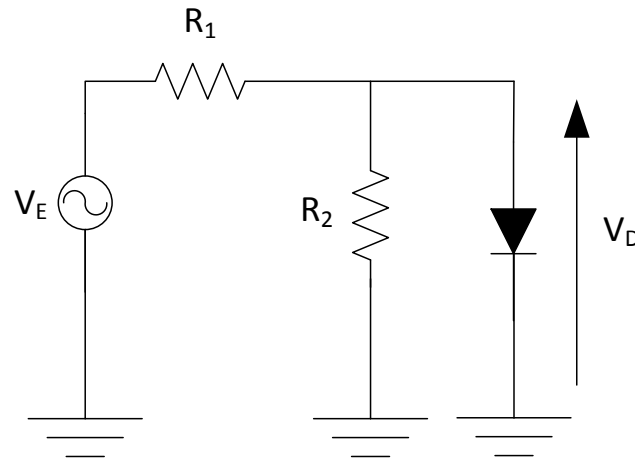
Exercices

Clamping circuit

- Ideal diode with $V_T = 0.7$ V
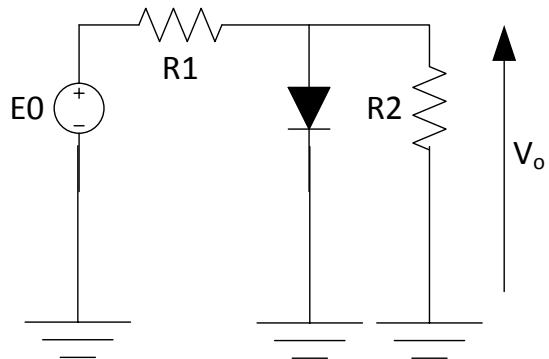- v_I is a 10-V peak sine wave and $E_0 = 5$ V
- v_O ?

Exercices

- Assume diode ideal with $V_T = 0.7$ V

- For what value of V_E is diode blocking/passing

- For both cases, compute i_{R1}, i_{R2} and V_D

Exercices

E0=5, R1=180, R2=150

- Diode characteristic $i = I_S e^{v/V_T}$ with
  - $I_S = 7.10^{-15}$ A
  - $V_T = 25$ mV
- Vo if R2 connected ?
- Vo if R2 not connected (graphically) ?

Exercices

- Two imperfect diodes
- What are the values of i_{D1}, i_{D2}, i_R and v_o (graphically)?