Problem set

P2.9 Consider the following logic function:

$$Y = \overline{A(BC + (D(E + F)))}$$

(a) Draw the circuit schematic for a static gate that implements the function.

(b) If each ideal switch has a resistor with a value of R in series with it, what is the largest resistance that will charge up the output?

(c) If each ideal switch has a resistor with a value of R in series with it, what is the largest resistance that will discharge the output to ground?

(d) If each ideal switch has a resistor with a value of R in series with it, what is the smallest resistance that will charge up the output?

(e) If each ideal switch has a resistor with a value of R in series with it, what is the smallest resistance that will discharge the output to ground?

P2.10 Consider the following logic function:

$$Y = \overline{A + BC(D + EF)}$$

(a) , draw the circuit schematic for a static gate that implements the function.

(b) If each ideal switch has a resistor with a value of R in series with it, what is the largest resistance that will charge up the output?

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