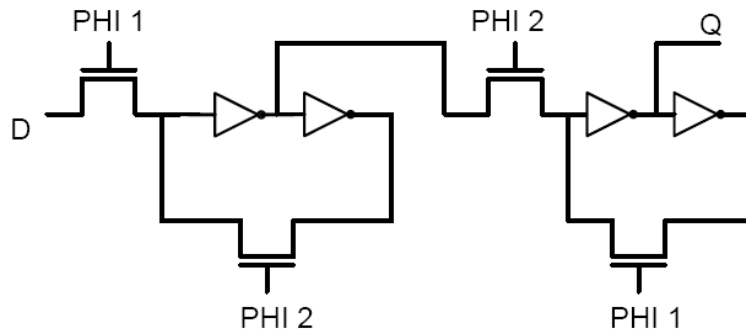
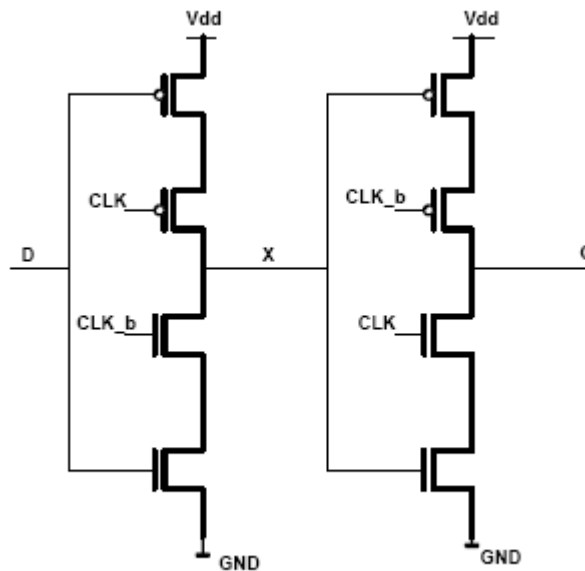


Homework Assignment 2 (Due 20th September 2012 at the beginning of the class)

1. What is the intended operation of the following circuit? What are the roles of PHI 1 and PHI2? What should be their characteristics? [3]



2. Explain the operation of the circuit below. Is there any similarity with the circuit of problem (1)? (CLK_b = !CLK) [4]



3. Using transmission gates, design a circuit whose output is

$$Y = \overline{(A + B + C)} + \overline{AB}$$

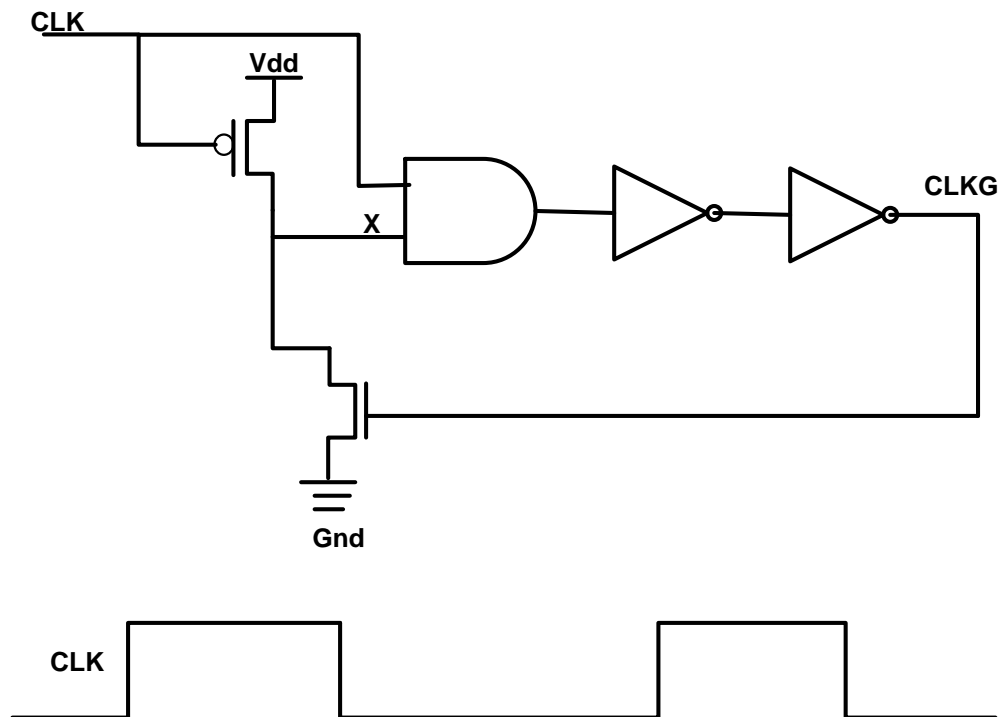
[4]

4. Design a dynamic logic circuit whose output is

$$Y = \overline{A}\overline{B} + BC + \overline{C}$$

[4]

5. Determine the output waveform CLKG of the given circuit. The CLK waveform is as shown. Please explain the operation of this circuit. [5]



6. Draw the output waveform of the gate below. What is the dynamic power ($P = \alpha CV^2f$) dissipated by this gate for the cycles shown? [5]

