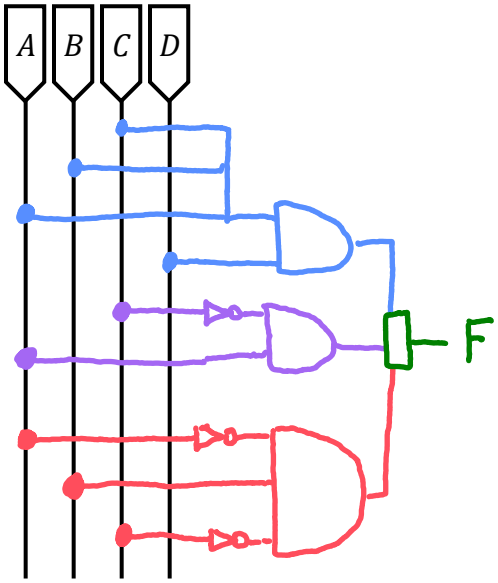
Implement the following expressions with AND, OR, and NOT gates. Do not simplify or re-arrange the expressions before drawing the logic circuits.

- The only variables available as inputs to your circuits are A, B, C, and D (not their complements), and they are each available only at the wires shown below. Start your own wires as horizontal lines correctly drawn "dot" connections to these wires.
- If you need to generate the complement of any variable you may use a single inverter to generate and route the output of that inverter to any gate input where it is needed.
- Use correct connection and crossover conventions in your circuit drawings.
- Neatly draw your gate symbols and wiring

a) $F = AC' + D(A + B + C) + A'BC'$



b) $G = [A + D(B + C)](B' + D')$