1. Construct a truth table for the Boolean equation:
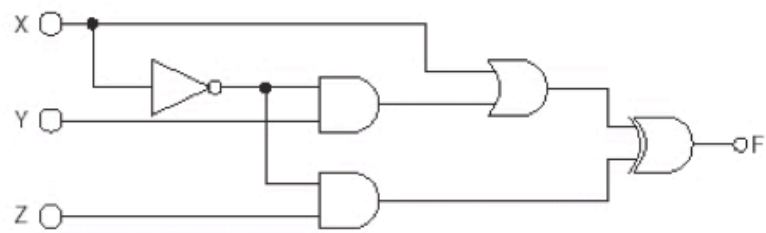
$$M = A'B\,C' + A'B\,C + A\,B'C + A\,B\,C$$

A	B	C	M
0	0	0	
1	1	1	

2. Draw a simple **NOT, AND, OR** circuit in sum of products (SOP) form that represents the equation above.

3. The truth table for a Boolean expression is shown below. Write the Boolean expression on SOP form

x	y	z	F
0	0	0	1
0	0	1	0
0	1	0	0
0	1	1	1
1	0	0	1
1	0	1	1
1	1	0	0
1	1	1	1

4. Find the truth table that describes the following circuit:

5.   Describe the function of a decoder circuit;

identify the types and quantity of gates needed to implement a 3-to-8 decoder;

either create (or give the location in the text) of a logic diagram of a decoder circuit