L6 practice problems

1. Perform the following unsigned addition operation. The 8-bit unsigned binary inputs are represented in hexadecimal digits.

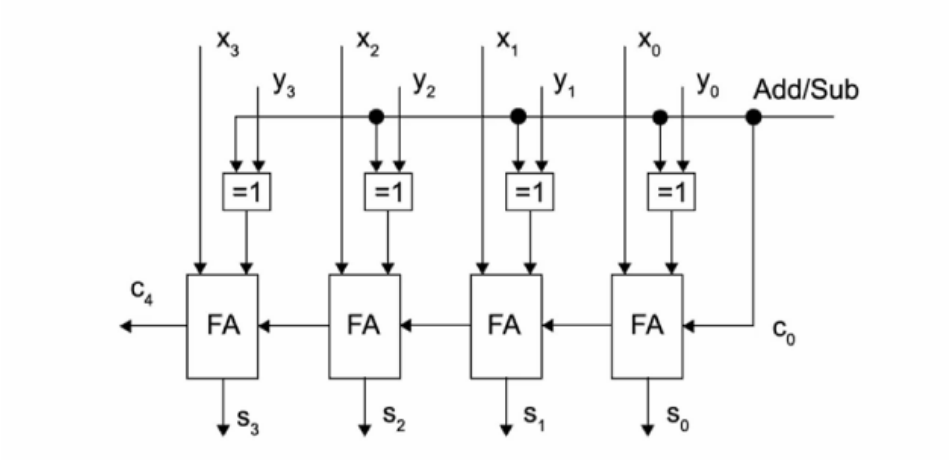
   9F + 4E

   ```
     1001 1111
   + 0100 1110
   ------------
     1101 1111
   ```

2. Assume the hexadecimal digits in Question 1 are 8-bit 2's complement representations of the signed input values.
   Give the decimal equivalent of the signed input values and also of the result.

   2's complement: 10011111= -97 01001110= 78 result=-19

3. Illustrate how the decimal subtraction (3 – 7) is carried out in the following circuit by indicating the logic level (i.e. 0 or 1) at every input and output (including intermediate signals) on the circuit.



4. Draw the diagram of a 6-bit wide 2's complement adder/subtractor circuit using six full adders.