EE306 – Microprocessors Number systems and representation, Logic Circuits 6.02.2019 SOLUTIONS

Full name and sign

1. Show A and B in 4-bit binary format.
   A = 12, B = 9.

(1) $(A)_2$ = 1100

(1) $(B)_2$ = 1001

2. Negative number representation:
   A = 12 B = -12 Represent A and B in

   i. Signmagnitude form:

(1) A = 01100 (1) B = 11100

   ii. 2's complement form:

(1) A = 01100 (1) B = 10100

3. BCD representation:

   A = 415:

(2) 0100 . 0001 . 0101

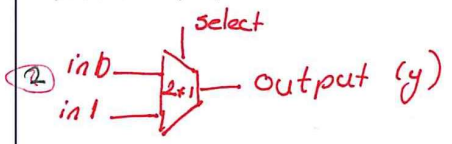
   B = 376:

(2) 0011 . 0111 . 0110

4. Show binary addition on "1101010" and "0110111". Encircle "carry" bits

(1) 1 1 0 1 0 1 0
+ 0 1 1 0 1 1 1
(1) 1 0 1 0 0 0 0 1

5. Draw the symbol of a 2x1 Mux. (Name all input and output)



(2)

(1) $y = \overline{select}.in0 + select.in1$

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