1. Converting Binary Numbers to Hexadecimal Numbers
    A. 0110 0001 1111→ 6 1 F → $61F_H$
    B. 1000 1111 1100 → 8 F C → $8FC_H$
    C. 0001 0110 0100 0101 → 1 6 4 5 → 1645_H
2. Converting Binary to Decimal
    A. 1100 1010
        a. 1100 1010 → -(2 + 8 + 64) → -74
        b. 1100 1010 → 1011 0101 → -(1 + 4 + 16 + 32) → -53
        c. 1100 1010 → 1100 1001 → 1011 0110 → -(2 + 4 + 16 + 32) → -54
    B. 1111 0010
        a. 1111 0010 → -(2 + 16 + 32 + 64) → -114
        b. 1111 0010 → 1000 1101 → -(1 + 4 + 8) → -13
        c. 1111 0010 → 1111 0001 → 1000 1110 → -(2 + 4 + 8) → -14
    C. 1000 0111
        a. 1000 0111 → -(1 + 2 + 4) → -7
        b. 1000 0111 → 1111 1000 → -(8 + 16 + 32 + 64) → -120
        c. 1000 0111 → 1000 0110 → 1111 1001 → -(1 + 8 + 16 + 32 + 64) → -121
3. Converting Decimal to Binary
    A. -100_d
        a. 1110 0100 (wrote positive 100 in binary and made the first bit a 1)
        b. 1001 1011 (keep first bit from "a" the same and toggle the rest)
        c. 1001 1100 (add 1 from b)
    B. -16_d
        a. 1001 0000 (wrote positive 16 in binary and made the first bit a one)
        b. 1110 1111 (keep first bit from "a" the same and toggle the rest)
        c. 1111 0000 (add 1 from b)
    C. -21_d
        a. 1001 0101 (wrote positive 21 in binary and made the first bit a 1)
        b. 1110 1010 (keep first bit from "a" the same and toggle the rest)
        c. 1110 1011 (add 1 from b)
    D. -0_d
        a. 1000 0000 (wrote positive 0 in binary and made the first bit a 1)
        b. 1111 1111 (keep first bit from "a" the same and toggle the rest)
        c. 0000 0000 (add 1 from b/ overloads to 9 bit (1 0000 0000))
4. What is the range of:
    A. For an unsigned 7-bit number, the binary range is 111 1111 – 011 1111. This in decimal form equates to the range of -63 – 63.
    B. For a signed 7-bit number, the binary range is 000 0000 – 111 1111. This in decimal form equates to the range of 0 – 127.
5. Provide the answer to the following problems:
    A. 1000 (only first bit is true)
    B. 1110 (first three bits or true since OR)
    C. (1000) V (1000) → 1000 (first bit is true because of OR)
6. Demonstrate each step in the calculation

   A. Signed Magnitude: 0001 1001(+25 in S.M.) + 1100 0001(-65 in S.M.) → 1101 1011(S.M.) → -91_d
   B. One's: 0001 1001(+25 in 1's) + 1011 1110(-65 in 1's) → 1101 0111(1's) → 1010 1000(S.M.) → -40_d
   C. Two's: 0001 1001(+25 in 2's) + 1011 1111(-65 in 2's) → 1101 1001(2's) → 1101 1000(1's) → 1010 0111(S.M.) → -39_d
7. Converting -40_d and checking for answer:
   A. -40_d → 1010 1000(S.M.) → 1101 0111(1's) → 1101 1000(2's)
   B. The calculation of 25 – 65 using One's complement proved to be the correct calculation based on the conversion of -40_d to signed magnitude, one's complement, and two's complement.