Assignment -2

1. Express each of the following sign-magnitude binary numbers in single-precision floating point format:
   (a) 0111110000101011
   (b) 1001100000110001
   (c) 1000100001100010
2. Determine the values of the following single-precision floating-point numbers:
   (a) 0 10000011 01001001110001000000000
   (b) 1 11001100 10000111110100100000000
   (c) 1 10011000 10000100010100110000000
3. Convert each hexadecimal number to binary:
   (a) 48A6 (b) F4C6 (c) B426 (d) 1A3D6
4. Convert each binary number to hexadecimal:
   (a) 11110110 (b) 10101011 (c) 101110011011 (d) 10101101010 (e)
      101011101100
5. Convert each hexadecimal number to decimal:
   (a) 4226 (b) 6426 (c) 2B26 (d) ABC26 (e) 6F226
6. Convert each decimal number to hexadecimal:
   (a) 3654 (b) 7824 (c) 8926 (d) 551 (e) 3682
7. Convert each of the following decimal numbers to BCD (8421):
   (a) 4124 (b) 6139 (c) 918 (d) 2341 (e) 225 (f) 36455
8. Convert each of the BCD numbers to decimal:
   (a) 1000110000 (b) 0010010110111 (c) 0011101000110 (d) 01001100100001
   (e) 011101010100 (f) 100000000000 (g) 100101111000 (h) 0001011010000011
9. Determine which of the following even parity codes are in error:
   (a) 100110010 (b) 011101010 (c) 10111111010001010
10. Determine which of the following odd parity codes are in error:
    (a) 11110110 (b) 00110001 (c) 01010101010101010
11. Attach the proper even parity bit to each of the following bytes of data:
    (a) 10100100 (b) 00001001 (c) 11111110
12. Convert each binary number to Gray code:
    11011 (b) 1001010 (c) 1111011101110
13. Convert each Gray code to binary:
    (a) 1010 (b) 00010 (c) 11000010001
14. Add the following BCD numbers:
    (a) 1001 + 0110   (b) 0011 + 1001
    (c) 1001 + 1001   (d) 1001 + 0111
    (e) 00110101 + 01100111
     (f) 01010011 + 01011000
    (g) 10010101 + 10010111
    (h) 010101100011 + 001100101000