1. Quiz for Chapter 1&2

1) Represent the decimal number 95 in binary number, hexadecimal number and BCD code respectively, and then generate an odd parity bit on the least significant bit for BCD code.

answer：

$(95)_{10}$ -> (0101 1111)$_2$ -> $(5F)_{16}$ -> $(1001\ 0101)_{BCD}$

$(1001\ 0101)_{BCD}$ -> (1 0010 1011) (with odd parity)

2) Prove the identity of the following Boolean equations, using algebraic manipulation.

ABC’ + BC’D’ + BC + C’D = B + C’D

ABC’ + BC’D’ + BC + C’D
= (ABC’ + BC) + (BC’D’ + C’D)
= B(AC’ + C) + C’(BD’ + D)
= B(A + C) + C’(B + D)
= AB + BC + BC’ + C’D
= AB + B + C’D
= B + C’D