Homework #2

1.25 Represent the decimal number 6,514 in (a) BCD, (b) excess-3 code, (c) 2421 code, and (d) a 6311 code.

1.28 Write the expression "George B." in ASCII, using an eight-bit code. Include the period and the space. Treat the leftmost bit of each character as a parity bit. Each eight-bit code should have odd parity. (George Boole was a 19th-century mathematician. Boolean algebra, introduced in the next chapter, bears his name.)

2.1 Demonstrate the validity of the following identities by means of truth tables:
(a) DeMorgan's theorem for three variables: $(x + y + z)' = x'y'z'$ and $(xyz)' = x' + y' + z'$

2.3 Simplify the following Boolean expressions to a minimum number of literals:
(a)* $A'B'C + AB'C + BC$ (b)* $x'y'z' + y'z$

2.9 Find the complement of the following expressions:
(a)* $x'y' + xy$ (b) $ac + ab' + a'bc'$