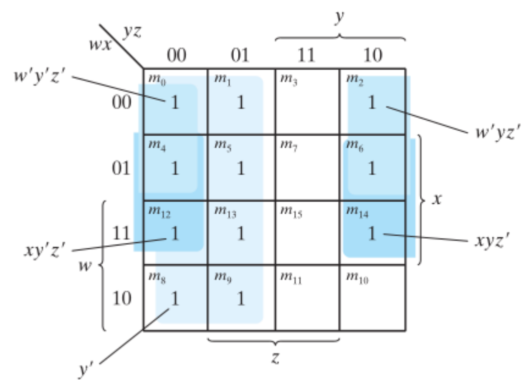
00	01	10	11	
NUL	Spc	@	`	00000
SOH	!	A	a	00001
STX	"	B	b	00010
ETX	#	C	c	00011
EOT	$	D	d	00100
ENQ	%	E	e	00101
ACK	&	F	f	00110
BEL	'	G	g	00111
BS	(	H	h	01000
TAB	)	I	i	01001
LF	*	J	j	01010
VT	+	K	k	01011
FF	,	L	l	01100
CR	-	M	m	01101
SO	.	N	n	01110
SI	/	O	o	01111
DLE	0	P	p	10000
DC1	1	Q	q	10001
DC2	2	R	r	10010
DC3	3	S	s	10011
DC4	4	T	t	10100
NAK	5	U	u	10101
SYN	6	V	v	10110
ETB	7	W	w	10111
CAN	8	X	x	11000
EM	9	Y	y	11001
SUB	:	Z	z	11010
ESC	**;**	**[**	**{**	**11011**
FS	<	\	|	11100
GS	=	]	}	11101
RS	>	^	~	11110
US	?	_	DEL	11111

Decimal Symbol	BCD Digit
0	0000
1	0001
2	0010
3	0011
4	0100
5	0101
6	0110
7	0111
8	1000
9	1001

Gray Code	Decimal Equivalent
0000	0
0001	1
0011	2
0010	3
0110	4
0111	5
0101	6
0100	7
1100	8
1101	9
1111	10
1110	11
1010	12
1011	13
1001	14
1000	15

$$F = y' + w'z' + xz'$$



Note: $w'y'z' + w'yz' = w'z'$
$xy'z' + xyz' = xz'$

Postulates and Theorems of Boolean Algebra

Postulate 2	(a)	$x + 0 = x$	(b)	$x \cdot 1 = x$
Postulate 5	(a)	$x + x' = 1$	(b)	$x \cdot x' = 0$
Theorem 1	(a)	$x + x = x$	(b)	$x \cdot x = x$
Theorem 2	(a)	$x + 1 = 1$	(b)	$x \cdot 0 = 0$
Theorem 3, involution		$(x')' = x$		
Postulate 3, commutative	(a)	$x + y = y + x$	(b)	$xy = yx$
Theorem 4, associative	(a)	$x + (y + z) = (x + y) + z$	(b)	$x(yz) = (xy)z$
Postulate 4, distributive	(a)	$x(y + z) = xy + xz$	(b)	$x + yz = (x + y)(x + z)$
Theorem 5, DeMorgan	(a)	$(x + y)' = x'y'$	(b)	$(xy)' = x' + y'$
Theorem 6, absorption	(a)	$x + xy = x$	(b)	$x(x + y) = x$

1. Add the minuend M to the r's complement of the subtrahend N. Mathematically, $M + (r^n - N) = M - N + r^n$.
2. If $M \geq N$, the sum will produce an end carry r^n, which can be discarded; what is left is the result $M - N$.
3. If $M < N$, the sum does not produce an end carry and is equal to $r^n - (N - M)$, which is the r's complement of $(N - M)$. To obtain the answer in a familiar form, take the r's complement of the sum and place a negative sign in front.

Parity: make the bits of a byte a given parity (e.g. even parity bytes will have an even number of bits) set to 1)