There are only 10 types
of people in the world:
Those who understand binary
and those who don't.

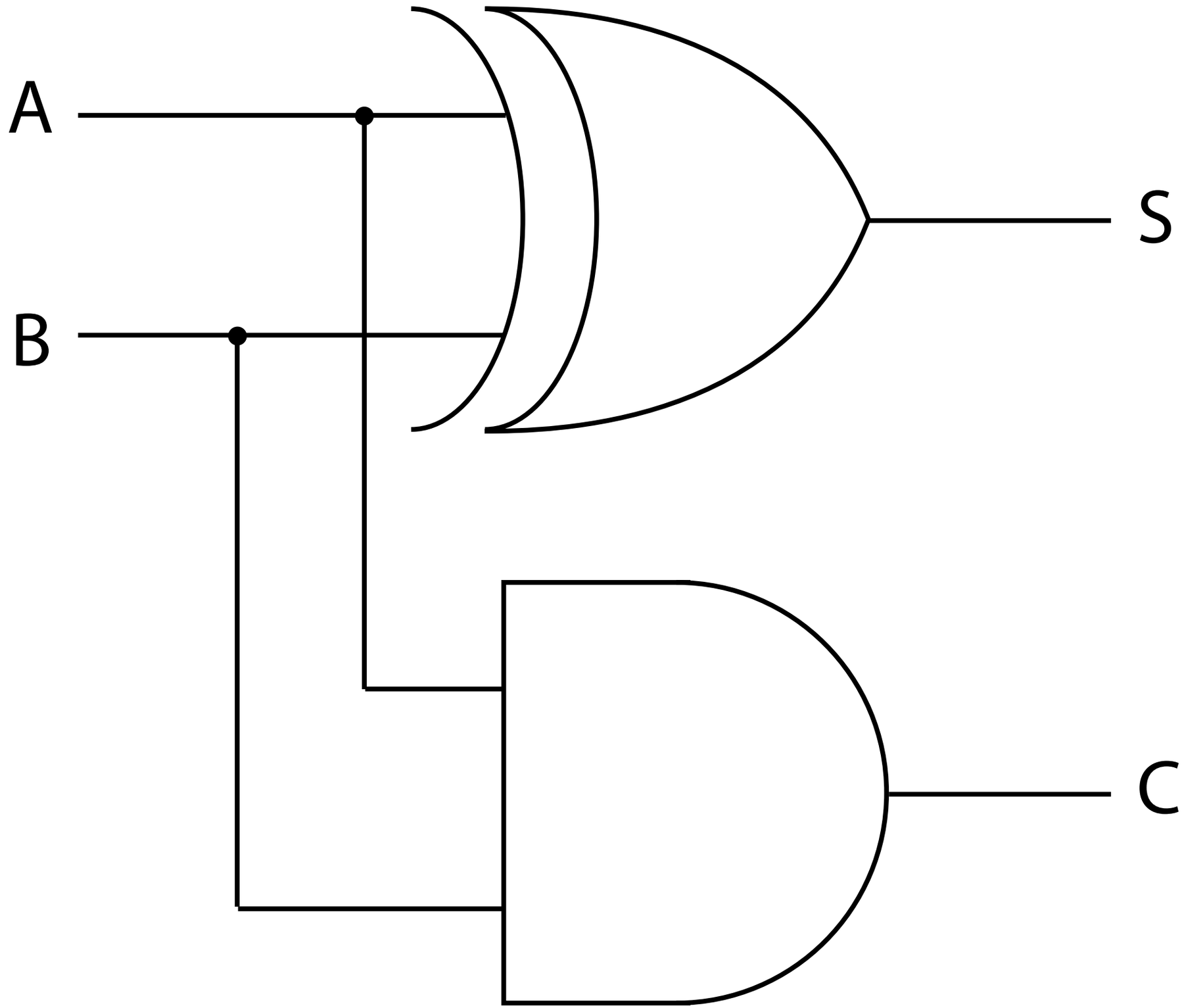
binary				decimal
0	0	0	0	0
0	0	0	1	1
0	0	1	0	2
0	0	1	1	3
0	1	0	0	4
0	1	0	1	5
0	1	1	0	6
0	1	1	1	7
1	0	0	0	8
1	0	0	1	9
1	0	1	0	10
1	0	1	1	11
1	1	0	0	12
1	1	0	1	13
1	1	1	0	14
1	1	1	1	15

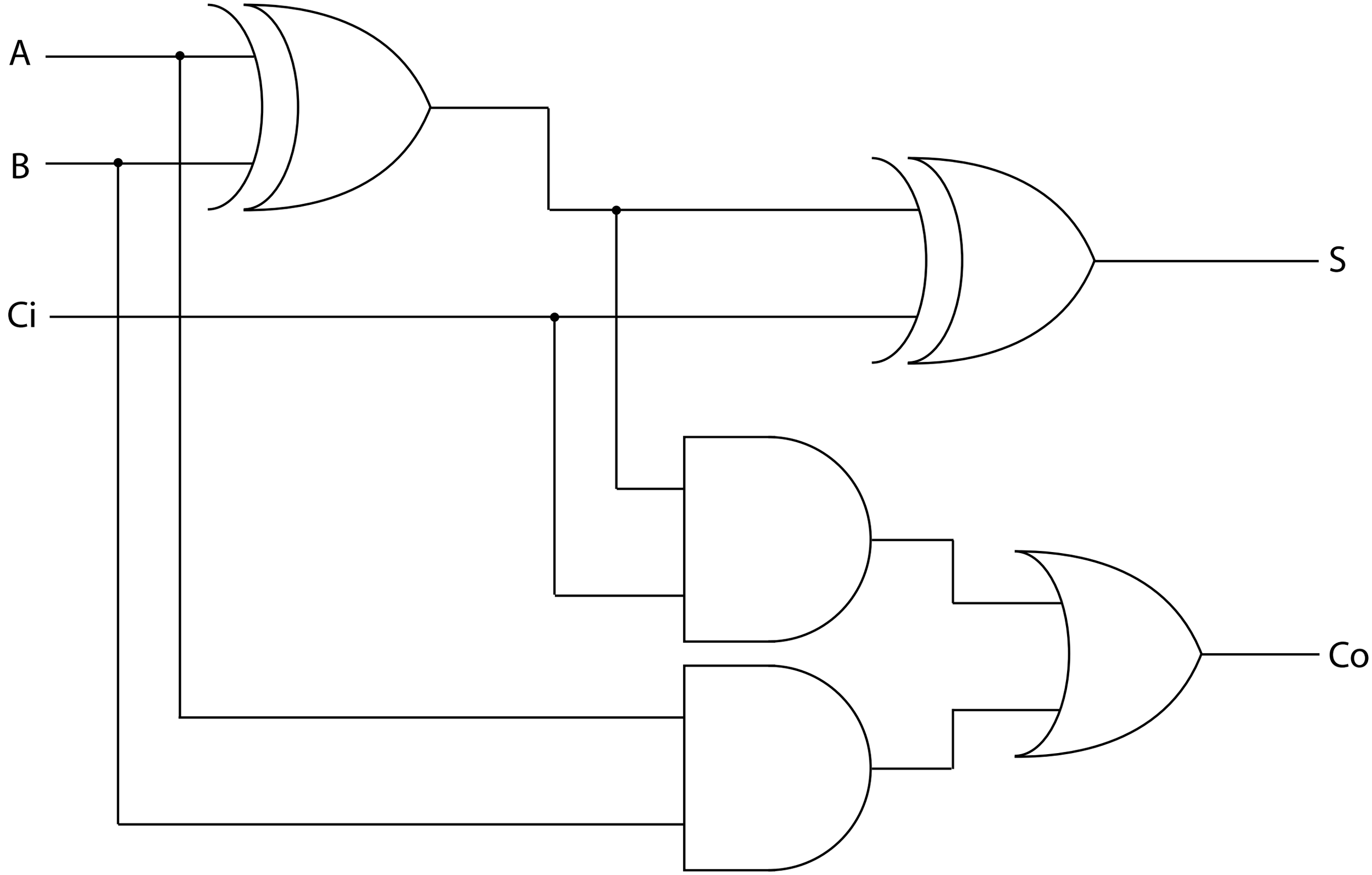
MSB LSB

$$d = \sum_{i=0}^{n} b_i 2^i$$

binary				decimal	hexadecimal
0	0	0	0	0	0
0	0	0	1	1	1
0	0	1	0	2	2
0	0	1	1	3	3
0	1	0	0	4	4
0	1	0	1	5	5
0	1	1	0	6	6
0	1	1	1	7	7
1	0	0	0	8	8
1	0	0	1	9	9
1	0	1	0	10	A
1	0	1	1	11	B
1	1	0	0	12	C
1	1	0	1	13	D
1	1	1	0	14	E
1	1	1	1	15	F

	binary	decimal	hexadecimal
base	**2**	**10**	**16**
characters	**0 1**	**0 1 2 3 4 5 6 7 8 9**	**0 1 2 3 4 5 6 7 8 9 A B C D E F**
notation	**#b**	**# #d**	**#h $# 0x#**


A
B
S
C


A
B
Ci
S
Co

(addition is an exclusive OR with carry)

	0	1	1	0	(6)
+	0	0	1	1	(3)
	1	0	0	1	(9)

straight binary

0	1	1	0

(6)

one's complement
(flip all the bits)

1	0	0	1

two's complement
(add 1)

1	0	1	0

(-6)

sign
bit

(subtraction is addition of the two's complement)

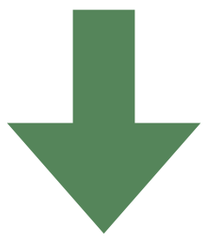
(6)

0	1	1	0

-

(3)

0	0	1	1

two's  complement

0	1	1	0

(6)

+

1	1	0	1

(-3)

=

0	0	1	1

(3)