VE270 Homework 2

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Problem 1.

x	y	$x \oplus y'$	$x' \oplus y$	$(x \oplus y)'$
0	0	1	1	1
0	1	0	0	0
1	0	0	0	0
1	1	1	1	1

$$x \oplus y' = x' \oplus y = (x \oplus y)'$$

Problem 2.

(a)

$$S \oplus E$$

(b)

$$S + H'$$

(c)

$$S \oplus EH'$$

Problem 3.

$$\begin{aligned} F &= a'b(c + d') + a(b' + c) + a(b + d)c \\ &= a'bc + a'bd' + ab' + ac + abc + acd \end{aligned}$$