

02-10-2020

## Homework 2

### Section 1: Two's Complement Addition

1. Solve the following using 8-bit Boolean addition

1a.  $35 + 62$

\* 35

128	64	32	16	8	4	2	1
0	0	1	0	0	0	1	1

$35 - 32 = 3$

$3 - 2 = 1$

$1 - 1 = 0$

\* 62

128	64	32	16	8	4	2	1
0	0	1	1	1	1	1	0

$62 - 32 = 30$

$30 - 16 = 14$

$14 - 8 = 6$

$6 - 4 = 2$

$2 - 2 = 0$

$35 \rightarrow 00100011$

$+ 62 \rightarrow 00111110$

$97 \rightarrow 01100001$

$01100001_2$

1b.  $98 - 55$

\* 98

128	64	32	16	8	4	2	1
0	1	1	0	0	0	1	0

$98 - 64 = 34$

$34 - 32 = 2$

$2 - 2 = 0$

\* 55