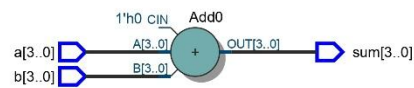
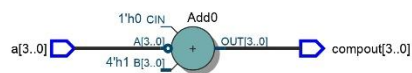


## EE314 Digital Circuits Laboratory

## Experiment 0 Preliminary

1)

*Figure 1: RTL Schematic of OurAdder**Figure 2: RTL Schematic of OurComplementer*

2)

```

Windows PowerShell x Anaconda Prompt (anaconda) x + v
-7 2 -5 -5
6 -4 2 2
-1 6 5 5
-1 -7 -8 -8
1 2 3 3
1 -1 0 0
3 -8 -5 -5
-8 7 -1 -1
4 -8 -4 -4
-2 7 5 5

51000.00ns INFO cocotb.regression
51000.00ns INFO cocotb.regression
*****

HE (s)  RATIO (ns/s) **
*****

0.50    101826.66 **
*****

0.95    53878.64 **
*****

make[1]: Leaving directory '/d/METU-EE/EE-Sem-6/EE314/EXP0/EXP0_2604163/AdderTest/Tests'
(base) D:\METU-EE\EE-Sem-6\EE314\EXP0\EXP0_2604163\AdderTest\Tests>

adder_modeled_test passed
*****
** TEST                                STATUS  SIM TIME (ns)  REAL TI
*****
** Adder_test.adder_modeled_test      PASS    51000.00
*****
** TESTS=1 PASS=1 FAIL=0 SKIP=0      51000.00
*****

```

Figure 3: Test Results for OurAdder

```

Windows PowerShell x Anaconda Prompt (anaconda) x + v
0xb 0x5 0x5 0x5
0x9 0x7 0x7 0x7
0xd 0x3 0x3 0x3
0x2 0xe 0xe 0xe
0x2 0xe 0xe 0xe
0x0 0x0 0x0 0x0
0x0 0x0 0x0 0x0
0xb 0x5 0x5 0x5
0xf 0x1 0x1 0x1
0xb 0x5 0x5 0x5

51000.00ns INFO cocotb.regression
51000.00ns INFO cocotb.regression
*****

(ns)  REAL TIME (s)  RATIO (ns/s) **
*****

0.00    0.38    134068.50 **
*****

0.00    0.84    60695.15 **
*****

make[1]: Leaving directory '/d/METU-EE/EE-Sem-6/EE314/EXP0/EXP0_2604163/ComplementerTest/Tests'
(base) D:\METU-EE\EE-Sem-6\EE314\EXP0\EXP0_2604163\ComplementerTest\Tests>

complementer_modeled_test passed
*****
** TEST                                STATUS  SIM TIME
*****
** Complementer_test.complementer_modeled_test  PASS    5100
*****
** TESTS=1 PASS=1 FAIL=0 SKIP=0      5100
*****

```

Figure 4: Test Results for OurComplementer

3)

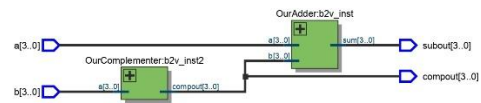


Figure 5: RTL Schematic for OurSubtractor

```

Windows PowerShell x Anaconda Prompt (anaconda x + v
1 4 -3 -3 0xc 0xc
-7 1 -8 -8 0xf 0xf
6 6 0 0 0xa 0xa
6 4 2 2 0xc 0xc
-1 -8 7 7 0x8 0x8
-5 -7 2 2 0x7 0x7
-4 1 -5 -5 0xf 0xf
1 -5 6 6 0x5 0x5
1 -1 2 2 0x1 0x1
-7 -8 1 1 0x8 0x8

51000.00ns INFO cocotb.regression completer_modeled_test passed
51000.00ns INFO cocotb.regression
*****
** TEST STATUS SIM TIME (
*****
** Subtractor_test.completer_modeled_test PASS 51000.
*****
** TESTS=1 PASS=1 FAIL=0 SKIP=0 51000.
*****
make[1]: Leaving directory '/d/METU-EE/EE-Sem-6/EE314/EXP0/EXP0_2604163/CombinedTest/Tests'
(base) D:\METU-EE\EE-Sem-6\EE314\EXP0\EXP0_2604163\CombinedTest\Tests>

```

Figure 6: Test Results for OurSubtractor