## CompArch HW 2

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## Decoder

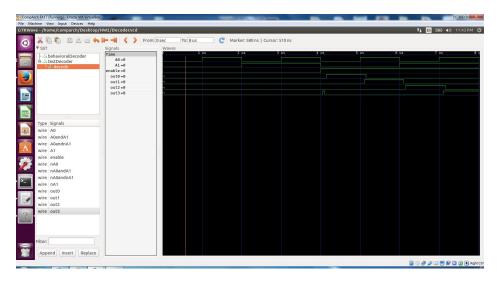


Figure 1: Decoder waveform results

```
comparch@comparch-VirtualBox:~/Desktop/HW2$ iverilog -o DC decoder.t.v
comparch@comparch-VirtualBox:~/Desktop/HW2$ ./DC
VCD info: dumpfile Decoder.vcd opened for output.
En A0 A1| 00 01 02 03 | Expected Output
0 0 0 | 0 0 0 0 | All false
0 1 0 | 0 0 0 0 | All false
0 1 0 | 0 0 0 0 | All false
0 0 1 | 0 0 0 0 | All false
1 0 0 | 1 | 0 0 0 0 | All false
1 0 0 | 1 0 0 0 0 Only
1 1 0 | 0 1 0 0 0 Only
1 0 1 | 0 0 1 0 | 02 Only
1 1 1 | 0 0 0 1 | 03 Only
comparch@comparch-VirtualBox:~/Desktop/HW2$
```

Figure 2: Decoder text bench results

## Multiplexer

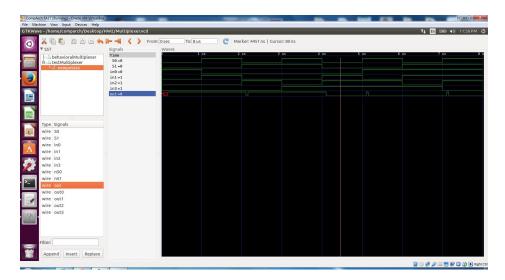
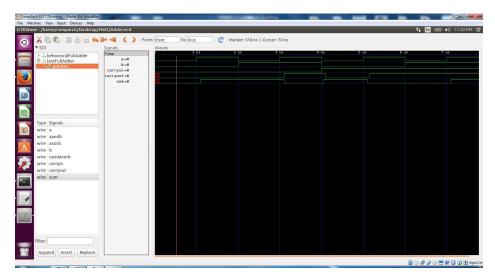


Figure 3: Multiplexer waveform results

```
comparch@comparch-VirtualBox:~/Desktop/HW2$ iverilog -o MP multiplexer.t.v
comparch@comparch-VirtualBox:~/Desktop/HW2$ ./MP
VCD info: dumpfile Multiplexer.vcd opened for output.
S0 S1| 00 01 02 03 |output| Expected Output
0 0 | 1 0 0 0 | 1 | in0
1 0 | 0 1 0 0 | 1 | in1
0 1 | 0 0 1 0 | 1 | in2
1 1 | 0 0 0 1 | 1 | in3
0 0 | 0 1 1 | 0 | in0
1 0 | 1 0 1 0 | in0
1 0 | 1 0 1 1 | 0 | in1
0 1 | 1 1 0 | 0 | in2
1 1 | 1 1 0 | 0 | in3
comparch@comparch-VirtualBox:~/Desktop/HW2$
```

Figure 4: Multiplexer text bench results

## Adder



```
Gcomparch-VirtualBox:~/Desktop/HW2$ iverilog -o Adder adder.t.v
acomparch-VirtualBox:~/Desktop/HW2$ ./Adder
dumpfile Adder.vcd opened for output.

| Sum Car0 | ExSum ExCar |
| 0 0 | 0 0 |
| 1 0 | 1 0 |
| 1 0 | 1 0 |
| 0 1 | 0 1 |
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comparch@comparch-VirtualBox:~/Desktop/HW2$
```

Figure 6: Adder text bench results