

Computer Science CSCI 355

Digital Logic and Computer Organization

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Verilog (IEEE 1364-2005 Standard)

○ Linux Install (Xubuntu 20.04)

- `sudo apt-get update`

`sudo apt-get install verilog`

`iverilog -V`

Icarus Verilog version 10.3 (stable) ()

On otter: Icarus Verilog version 10.1 (stable) ()

○ Verilog Simulation Semantics

- often described assuming logic design knowledge
- non-determinism makes simulation tracing more difficult (see standard (home page))

○ CSCI 355 Approach (First Six Weeks)

- ignore simulation non-determinism and focus on simple verilog for combinational circuits

CSCI 355 Labs

○ File Structure

Labs

Lab0

Makefile

tb.cew (behaviour)

behaviour.v (behaviour)

t1.v (structure) ←

TTL

sn7432

Makefile

tb.cew (behaviour)

behaviour.v (behaviour)

Systematic Testing

- Ad Hoc Approach

```
initial begin
```

```
...
```

```
#10 t_a=0; t_b=0; t_c=1;
```

```
#10 if (t_s !== 1) begin
```

```
    $display "Error message" ...
```

- Cew Approach

```
initial begin
```

```
...
```

```
cew_Ncase(t_a=0; t_b=0; t_c=1;#10;;, t_s , 1 , !==)
```