Simulation

Exercise 1:

1. typical inputs,

2. minimum and maximum valid inputs,

3. invalid inputs, and

4. randomly-chosen values.

Give examples of appropriate test inputs for each of the above categories if you were testing a circuit that computed the square root of a 16-bit signed number.

Exercise 2: What's the difference between:

```
always @(x) y = '1;,
```

```
wait(x) y='1;,
```

and `@(x) y='1;`?

Exercise 3: How could you:

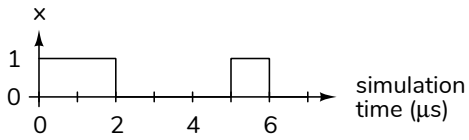
(a) terminate the simulation if a test vector failed?

(b) change the clock frequency to 10 MHz?

(c) print each test vector as it's read?

(d) assert the reset input for two clock cycles?

Exercise 4:



What statements could you use in an initial block to create this waveform on the signal **x**?

Exercise 5: Write a testbench for the traffic light controller in a previous lecture that asserts reset for one clock cycle, waits for the lights to change 5 times, waits 3 clock cycles, and then terminates.