Simulation

$\sqrt{\text{16 bit signed number}}$.

Exercise 1:

1. typical inputs, 16 64

2. minimum and maximum valid inputs, 0, ~~65536~~ (unsigned)
   32767 ← signed

3. invalid inputs, and −1 , −79

4. randomly-chosen values. 16, 3

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

until change in x

until x is non-zero (true)

Exercise 3: How could you:

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

if (...) $stop ;

(b) change the clock frequency to 10 MHz?

change #0.5us to #50ns

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

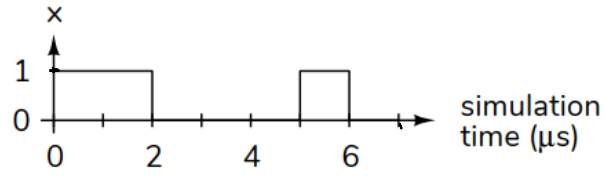
Start test vectors with: 2 clock cycles

1 0 0

1 0 0

↑ reset

Exercise 4: What statements could you use in an initial block to create the following waveform on the signal **x**?



```
initial begin
    x = 1;
  #2us x = 0;
  #3us x = 1;
  #1us x = 0

end
```

OR

```
initial      x = 1;
initial #2us x = 0;
initial #5us x = 1;
initial #6us x = 0;
```