

# EE1501 - Digital Systems Lab

## Assignment - 3

Please submit a report which includes the code, its testbench, results, and your approach.

Q1)  $y = x_0 \cdot h_0 + x_1 \cdot h_1 + x_2 \cdot h_2 + x_3 \cdot h_3 + x_4 \cdot h_4 + x_5 \cdot h_5 + x_6 \cdot h_6 + x_7 \cdot h_7 + x_8 \cdot h_8 + x_9 \cdot h_9$  ( $x_0, h_0 \dots$  are all numbers, bit width of your choice)

Compute  $y$  assuming you have only 2 Multipliers and 1 Adder. Note that the above operation is a dot product.

Q2) Write Verilog code to divide any clock frequency by 3.