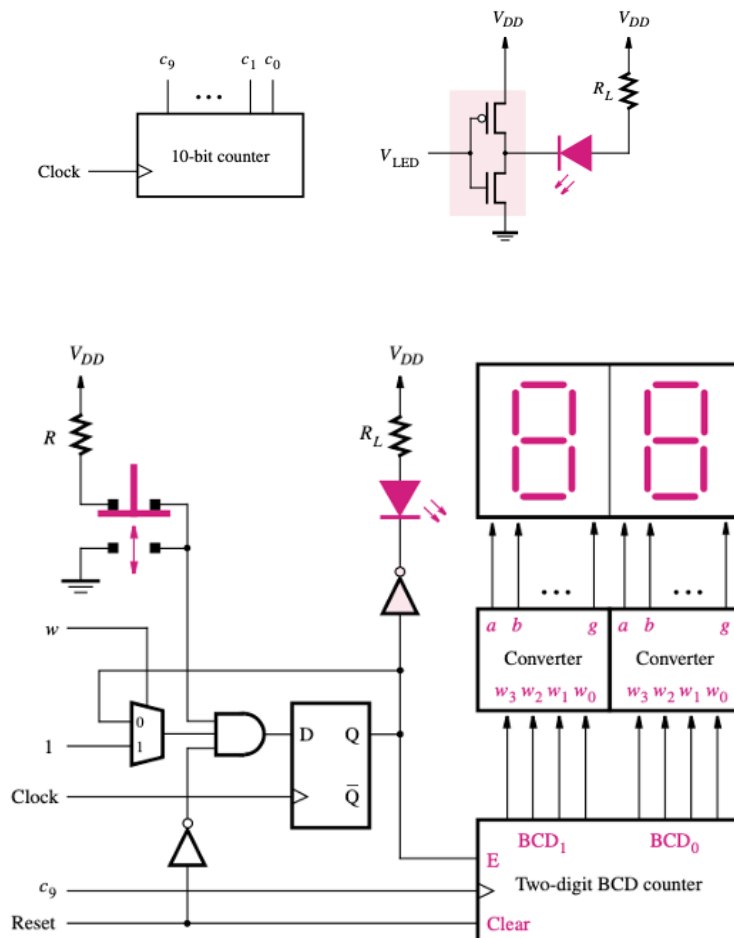


Mixed Electronics II:

Reaction Timer ¹

Design and implement on an FPGA a circuit that can be used to measure the reaction time of a person to a specific event. The circuit turns on a *light-emitting diode (LED)*. In response to the LED being turned on, the person attempts to press a switch as quickly as possible. The circuit measures the elapsed time from when the LED is turned on until the switch is pressed.

To measure the reaction time, a clock signal with an appropriate frequency is needed. In this example we use a 100 Hz clock, which measures time at a resolution of 1/100 of a second. The reaction time can then be displayed using two digits that represent fractions of a second from 00/100 to 99/100.



¹Fundamentals of Digital Logic with Verilog Design THIRD EDITION
Stephen Brown Zvonko Vranesic.