**INTRODUCTION TO VHDL**

Experiment 9b (Timed Outputs) Report

**1.** Did you really need the key-debouncers in your design? Why or why not?.

**2.** How many distinct states are there in your design for Assignment 1, other than the ones inherently created by the timers? What are these states?

**3.** Can you suggest a control circuitry with discrete electronic components (transistor, resistor, diode, etc.) for a low power DC motor control. Draw it for Assignment 2.

**4.** Assume that the motor has two speeds in both direction. Assume that pressing a button activates the lower speed and holding it for 2 seconds switches to higher speed. Assume that two speeds are indicated by two LEDs for one direction (eg, LEDcw1: slow, LEDcw2: fast). Do you need key-debouncers this time? Explain.