Questions:  
  
**Why don’t LEDR(8) and LEDR(9) light up?**

* The signal that drives LED lights is only high for one clock cycle (20ns) It is likely that this duration of signal is not long enough for the LED to display a visual representation of the signal.

**What happens when you push KEY(0)? What is it doing?**

* When you push Key(0) the numbers on the seven segment display all reset. Key(0) is resetting the count of the counter as well and restarting the beginning of the clock cycle from the moment the button is released.

**What happens when you push KEY(1)? What is it doing?**

* Key(1) loads the data from SW(7 downto 4) into the seven segment display. It differs from Key(0) because it does not reset the clock cycle and the counter continues to increment on the same clock schedule.

**What are SW(7 downto 0) used for?**

* SW(7 down to 4) holds the data that is loaded into the 7 segment control when Key(1) is pressed.

**What are “simulation wide” and “simulation\_max” used for in DE1\_top.vhd and in the simulation?**

* Simulation wide is an integer representation of how many bits the counter holds
* Simulation max is an integer representation of the max value of the counter

**Why are “simulation\_wide” and “simulation\_max” important during simulation for this design?**

* Simulation wide is important for specifying the number of correct bits for counting to your desired value. In the DE1\_top file we should use 26 bits because that is the minimum required bits to convert 50MHz into seconds.
* Simulation max controls the amount of time driving the clock cycle of our signals, we want our logic to run on cycles of 20us therefore our frequency should be set to 50MHz.