Raymond You

Pre-Lab 7

EECE 2160-Kimani

1)

**Inputs**

Rst (Boolean)= This resets the counter value

Load (Boolean)=This sets the counter to the load value

Load\_val (same as count)=This is the data value to load

Enb (Boolean)=This enables counter operation

Dir (Boolean)=This is the count direction

**Output**

Count (determined based on counter output data)=This is the counter value

2)

Initial value: This is the counter value after reset. The default initial value is 0.

Step value: This is the value added to counter at each sample time. The default is 1.

Count to value: Whenever the count is exactly equal to “Count to value”, the count restarts at the Initial value. The default is 100.

Word Length: Bit width, including sign bit, for an integer counter; word length for a fixed-point data type counter. The minimum value if Output data type is Unsigned is 1, 2 if Signed. The maximum value is 125. The default is 8.

3)

a)The clock period (time for each period or cycle) in nanoseconds is 20ns.

b)

1/20ns = x/1,000,000,000n

X=50000000

There are 50000000 cycles (periods) in one second.

c)

1/0.00002ms = x/250ms

X=12500000

There are 12500000 cycles in 250 ms.