

CprE 381 – Computer Organization and Assembly-Level Programming

Lab-04 Report

Student Name _____

Section / Lab Time _____

Submit a typeset pdf version of this on Canvas by the due date. Refer to the highlighted language in the Lab-04 instructions for the context of the following questions.

- a. [Prelab] Based on the waveforms, provide a description in your own words of how this component operates. This can be in the form of a textual description, flow chart, or state machine

The component is a basically a super large chunk of memory.

In the most basic image, you see q outputting the value of the memory stored in the address given by the address variable. The change of the output of q happens on the rising edge of the clock.

In the second image, the basic affects of writing data are introduced. The values at the address variable are written over when the write enable bit is high. The change can be seen on the falling edge of the clock.

In the final picture you see that the byteenable allows you to write to a subset of the full 32 bit memory at each address. You also see that the byteenable also controls how much data is read from q.