

CSCI 2321 (Computer Design), Spring 2021

Reading Quiz 7

Credit: 15 points.

1 Reading

Be sure you have read, or at least skimmed, the assigned sections of Appendix B of the textbook.

2 Instructions

Answer the questions below using *only* the course textbook (i.e., no Web searches). Please work independently rather than in groups, and include the Honor Code pledge in what you turn in, either the full pledge or just the word “pledged”. (Please put this in the same document as your answers, so I don’t overlook it.)

You may write out your answers by hand and scan them, or you may use a word processor or other program, but please submit a PDF or plain text via e-mail to my TMail address. (No links to shared files on Google Drive please.) Please use a subject line that mentions the course and the assignment (e.g., “csci 2321 quiz 7” or “computer design quiz 7”).

3 Questions

1. (2.5 points) Digital electronics use two voltage levels. The textbook mentions three ways to refer to each one; what are they?
2. (2.5 points) The textbook describes a building-block circuit that allows you to choose one of a group of alternatives. What is it called, and how many alternatives can it select among?
3. (2.5 points) The textbook mentions something called “DeMorgan’s theorems”. What are they?
4. (2.5 points) Figure B.5.9 adds to previous figures inputs labeled **Binvert** and **Ainvert**. What is their purpose (i.e., what operations can the circuit in Figure B.5.9 do that the one in Figure B.5.7 can’t do)?
5. (2.5 points) What’s the name of the circuit that makes it possible to work with registers? Viewing it as something of a black box, what are its inputs and outputs?
6. (2.5 points) (Not answered explicitly in reading but I think not a hard extrapolation.) Section B.2 mentions that logic blocks can be combinational or sequential. The following sections describe some details of one of each type; what are they?