

CSCI 2321 (Principles of Computer Design), Spring 2013

Homework 4

Credit: 10 points.

1 Reading

Be sure you have read all assigned sections of chapter 3.

2 Problems

Do the following problems. You may write out your answers by hand or using a word processor or other program, but please submit hard copy, either in class or in my mailbox in the department office.

1. (5 points) Do problems 3.4.1 and 3.7.1 from the textbook, substituting the values below for those in the tables. (Notice that the goal is to produce tables like the ones in Figures 3.7 and 3.11. The problems tell you to use hardware described in Figures 3.4 and 3.9, but it's probably more helpful to look at the algorithms sketched in Figures 3.5 and 3.10.)

Clarification: You probably do need to look at the captions at least for the two “hardware” diagrams, since that's where the textbook tells you how the various registers and work areas are initialized.

For problem 3.4.1, use 6-bit binary values equivalent to the following octal values:

$$A = 62_8$$

$$B = 12_8$$

For problem 3.7.1, use 6-bit binary values equivalent to the following octal values:

$$A = 74_8$$

$$B = 21_8$$

2. (5 points) Do problems 3.10.3 and 3.10.5 from the textbook, substituting the values below for those in the tables.

For problem 3.10.3 use the (hexadecimal) value 0x41340000.

For problem 3.10.5 use the (decimal) value 63.25.