CSCI 2321 (Principles of Computer Design), Spring 2004

Homework X

Assigned: May 4, 2004.

Due: May 11, 2004, at noon. *Not accepted late.*

Credit: Up to 30 extra-credit points.

1 Problems

Answer as many (or as few) of the following questions as you like. (Notice, however, that you can receive at most 30 extra-credit points.) You may write out your answers by hand or using a word processor or other program, but please submit hard copy (in my mailbox in the department office is fine). If the problem asks you to write code (either MIPS assembler or C/C++), please also submit a copy of your code by e-mail, to `bmassing@cs.trinity.edu`. Probably the simplest way is to use your regular mail program and send the files as attachments. If that seems inconvenient, talk to me about other possible approaches.

1. (2.5 points) .5 Do problem 1.55 on p. 50 of the textbook.
2. (5 points) Do problem 3.22 on p. 203 of the textbook.
3. (5 points) Do problem 3.23 on p. 203 of the textbook.
4. (2.5 points) .5 Do problem 4.18 on p. 326 of the textbook.
5. (2.5 points) .5 Do problem 4.22 on p. 326 of the textbook.
6. (5 points) Do problem 4.29 or problem 4.30 on p. 327 of the textbook.
7. (5 points) Do problem 5.8 on p. 427 of the textbook. (Notice that this is for the single-cycle implementation.)
8. (5 points) Do problem 5.22 on p. 430 of the textbook.
9. (5 points) Do problem 5.29 on p. 430 of the textbook.
10. (5 points) Do problem 6.4 on p. 530 of the textbook.
11. (5 points) Do problem 6.5 on p. 530 of the textbook.
12. (5 points) Do problem 6.33 on p. 536 of the textbook.
13. (5 points) Do one of problems 7.1 through 7.6 on p. 628 of the textbook.
14. (5 points) Do problem 7.7 on p. 628 of the textbook.
15. (5 points) Do problem 7.21 on p. 628 of the textbook.
16. (2.5 points) .5 Do problem 8.5 on p. 701 of the textbook.

17. (2.5 points) .5 Do problem 9.2 on p. 757 of the textbook.

18. (2.5 points) .5 Do problem 9.3 on p. 757 of the textbook.

19. (Up to 30 points.) Propose and solve one or more problems relevant to this course. Credit will depend on the difficulty and relevance of the problem(s) and the success with which you solve it/them. (Some possibilities include writing a program in MIPS assembler that does something interesting, or doing additional problems of your choice from the textbook.)