CSCI 2321 (Principles of Computer Design), Spring 2014
Review for Midterm Exam

1   Format of the exam

The exam will be in class March 20. You will have 75 minutes. Like the quizzes, it is open book/notes, which means you can use the textbook, material from the course Web site, and your notes and graded work. You may not use a calculator or computer *except* to view the above material.

Most questions will be similar in form to those in the quizzes, minute essays, and homework assignments, and somewhere in between with regard to difficulty (more difficult than the quiz questions, easier or at least shorter than some of the homework).

2   Topics to review

You are responsible for all material covered in class or in the assigned reading from chapters 1 and 2 of the textbook. You should review in particular the following topics. It would probably also be helpful to review sample solutions for the quizzes, assignments, and any minute essays that have well-defined answers.

- Terminology/concepts from chapter 1 (machine language, instruction set architecture, assemblers, etc.).

- Defining and measuring performance; relationship among execution time, clock rate, cycle time, and cycles per instruction.

- Idea of "instruction set architecture" (as the interface between hardware and software).

- MIPS instructions described in chapter 2 — usage and binary (machine-language) representation.

- Compilers, assemblers, linkers, and loaders.

- MIPS conventions for procedure calls.

- Binary, decimal, and hexadecimal number systems; two's complement notation.