Fall 2004 Midterm Exam 2.0 Review

When / Where

Friday, 12 November 2004, 10:40-11:30 CST

CEBA 3142 (Here)

Conditions

Closed Book, Closed Notes

Bring one sheet of notes (both sides), $216\,\mathrm{mm} \times 280\,\mathrm{mm}$.

No use of communication devices.

Format

Several problems, short-answer questions.

Resources

Solved tests and homework:. `http://www.ece.lsu.edu/ee4720/prev.html`

Statically Scheduled MIPS Study Guide:...

... `http://www.ece.lsu.edu/ee4720/guides/ssched.pdf`

Study Recommendations

Study this semester's homework assignments. Similar problems may appear on the exam.

Solve Old Problems

Memorizing solutions is not the same as solving.

Following and understanding solutions is not the same as solving.

Use the solutions for brief hints and to check your own solutions.

Previous Midterms

Emphasis

Implementation Diagrams and Pipeline Execution Diagrams

They are a *team*, so study them together.

Instruction Use

Should be able to easily understand MIPS programs.

Should be able to use other instructions in examples.

For example, SPARC, DLX, etc.

Not required to memorize instruction names, except for common MIPS instructions.

Topics

Statically Scheduled MIPS Implementations

Unpipelined Implementation

Pipelined Implementations

Basic (2-cycle branch penalty).

Zero-cycle branch penalty.

Bypassed.

Dependency Definitions

Hazard Definitions

For a Given Pipelined Implementation

Show pipeline execution diagrams.

Show register contents at any cycle.

Determine control hardware.

Determine CPI.