

May 1

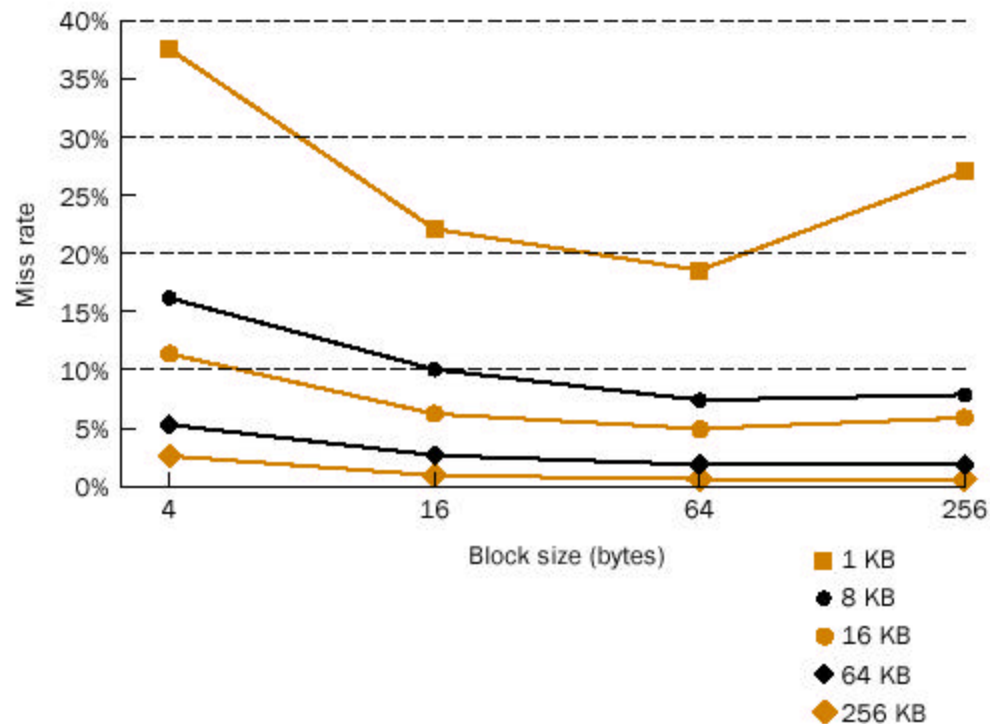
- This is it!
- Final Exam
- Questions

Final Exam

- Final Exam Saturday 5 May 2pm to 5pm
- You can have the usual cheat sheet
- Bring paper, pencil, calculator
- No books, notes, friends, computers, etc.
- Some easy stuff, some easier stuff, some stuff you haven't thought about...

Questions

- Is there an optimum ratio of cache size to associativity to block size?
 - No. It depends too much on what you are doing.



Memory Hierarchy

- Relative access time
 - Registers ✎ 1
 - L1 Cache ✎ 2
 - L2 Cache ✎ 10
 - Memory ✎ 100
 - Disk ✎ $10,000,000 = 10^7$
 - Network ✎ $100,000,000 = 10^8$

Truth Tables

7. [8] Suppose we want to design a 1-bit subtracter like our 1-bit adder. The inputs are A, B, and Borrow-In. The outputs are A-B and Borrow-out. Make a truth table for outputs A-B and Borrow-out.

A	B	BI	A-B	BO
0	0	0	0	0
0	0	1	1	1
0	1	0	1	1
0	1	1	0	1
1	0	0	1	0
1	0	1	0	0
1	1	0	0	0
1	1	1	1	1

e.g.

$$\begin{array}{r} \dots 0 \ 1 \ A \ 0 \ 1 \ \dots \\ - \dots 0 \ 0 \ B \ 1 \ 0 \ \dots \end{array}$$

Performance

- Our old friend the “story problem”.
- Know the definition of the terms and write out the formulas.
- Bigger is better in speedup.

Other questions?

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