Computer Organization and Design, Fifth Edition: The Hardware/Software Interface (The Morgan Kaufmann Series in Computer Architecture and Design)

David A. Patterson, John L. Hennessy

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The fifth edition of *Computer Organization and Design*-winner of a 2014 Textbook Excellence Award (Texty) from The Text and Academic Authors Association-moves forward into the post-PC era with new examples, exercises, and material highlighting the emergence of mobile computing and the cloud. This generational change is emphasized and explored with updated content featuring tablet computers, cloud infrastructure, and the ARM (mobile computing devices) and x86 (cloud computing) architectures.

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- Covers parallelism in depth with examples and content highlighting parallel hardware and software topics
- Features the Intel Core i7, ARM Cortex-A8 and NVIDIA Fermi GPU as real-world examples throughout the book
- Adds a new concrete example, "Going Faster," to demonstrate how understanding hardware can inspire software optimizations that improve performance by 200 times
- Discusses and highlights the "Eight Great Ideas" of computer architecture: Performance via Parallelism; Performance via Pipelining; Performance via Prediction; Design for Moore's Law; Hierarchy of Memories; Abstraction to Simplify Design; Make the Common Case Fast; and Dependability via Redundancy
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