

ECE 4750 Computer Architecture

Section 7: Problem-Based Learning on Processors

<http://www.csl.cornell.edu/courses/ece4750>
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Part 1.D Comparison of Processor Microarchitectures

Consider the results in the following table. Which microarchitecture has the highest performance on this microbenchmark? How would these results generalize to other workloads? Discuss some of the trade-offs in terms of area and energy between the processor microarchitectures. Consider what would happen if we used a 4-cycle *pipelined* integer multiplier.

Microarchitecture	Inst/Prog	Cycles/Inst (ns)	Time/Cycle	Exec Time (ns)
Processor w/ 1-cycle Mul			1.0ns	
Processor w/ 4-cycle Mul			0.7ns	