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EECS 361 Computer Architecture

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Quiz #3

1) What is the most important disadvantage of a ripple-carry adder?

It is slow: the carry out signal of a bit is used as an input in the next bit, generating a long critical path.

2) What does "successive refinement" mean?

Successive refinement is a design technique where first an inefficient version is developed, which is then optimized in successive steps.

3) What is the logic equation to create the C_{in} to the second bit (in other words, C_1) in the carry-lookahead adder? Note that you can use A_0, B_0, and C_0 in the equation.

$C_1 = (A_0$ and $B_0)$ or $((A_0$ xor $B_0)$ and $C_0)$