

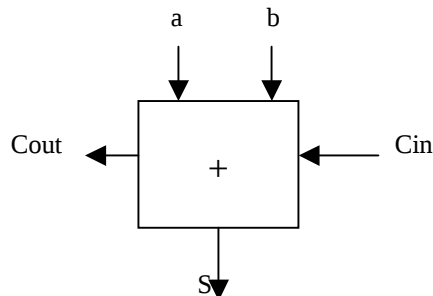
EE334 Computer Architecture Homework

Due: March 24, 2004

Problem 1. Please answer the following questions:

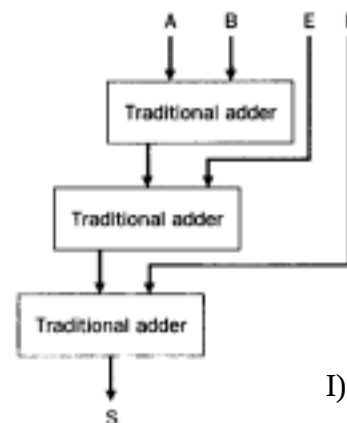
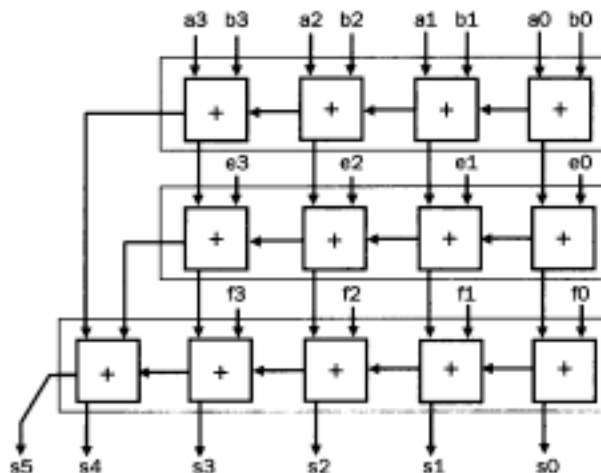
- If we have the following 16-bit number, please obtain the 32-bit number using sign extend
1011 0011 1010 1001
- Get the two's complement of the following 16-bit number
1000 1010 1100 1000
- Show the IEEE 754 binary representation for the floating-point number -323.25 in single precision.

Problem 2. Let us assume that the delay through each 1-bit adder is as follows:

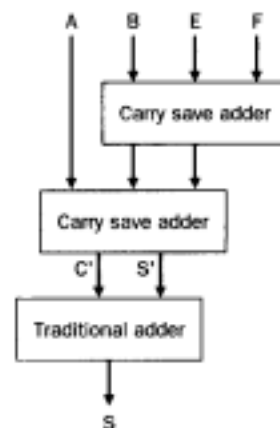
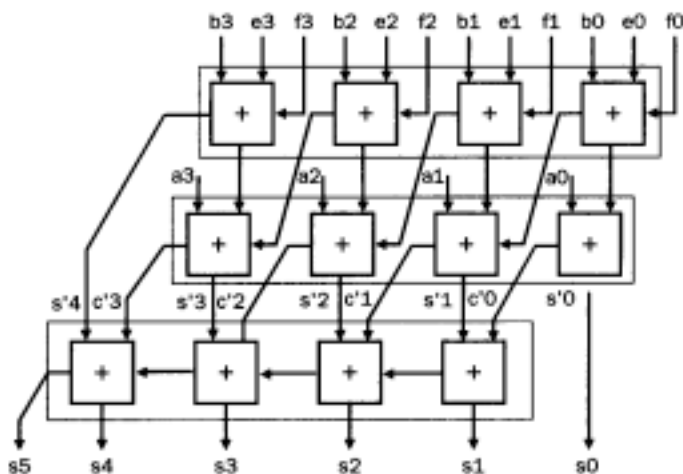


S (sum)	0.4 nsec
Cout (carry out)	0.2 nsec

Calculate the time of adding four 4-bit numbers using the organizations shown below.



I) Ripple carry



II) Carry save