



Figure 1: How addition and subtraction gets implemented with logic gates to either subtract  $A$ , a four digit binary number (something like 0010, or “2”), from  $B$  (perhaps 1000, or “8”), or add the two numbers instead. Each pair of bits goes into a full adder (the trapezoid-shaped symbol). To use subtraction, the M-line is held to a positive voltage, effectively turning the  $XOR$  gate into a  $NOT$  gate.