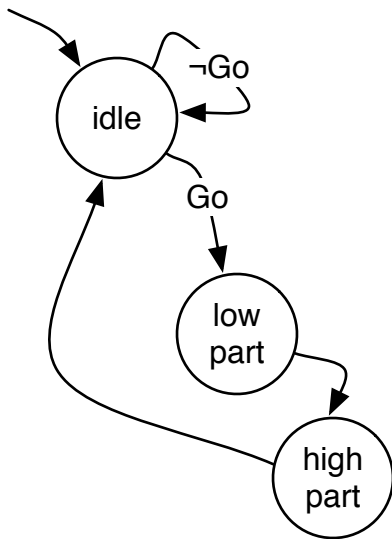
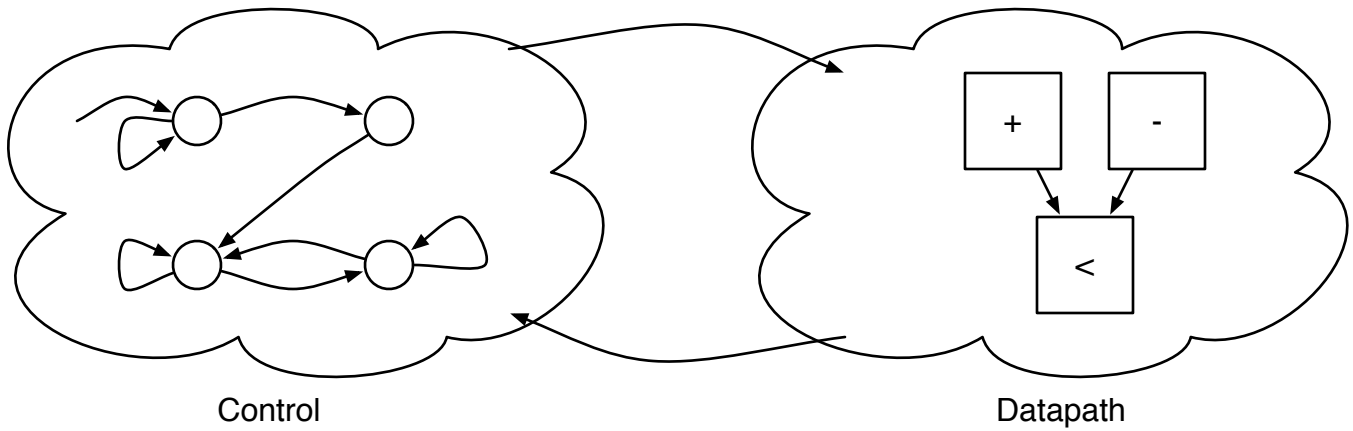


The challenge: perform 32-bit addition/subtraction with only a 16-bit adder/subtractor, a finite state machine, and some registers.

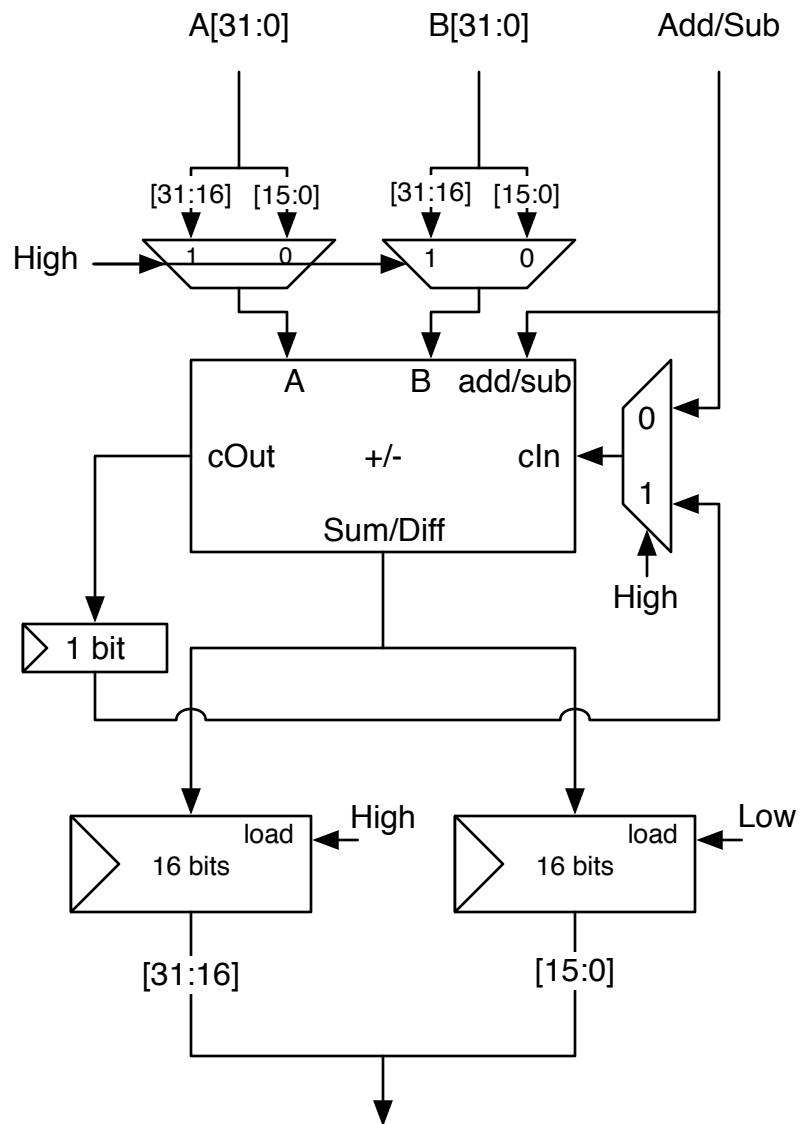
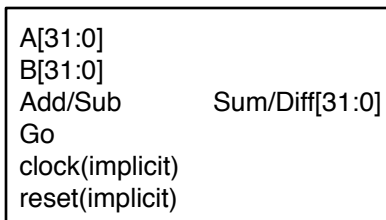
The design approach we will use to solve this problem: "control/datapath design"



Output Table:

State	Outputs
idle	No outputs
low part	Low
high part	High

External View:



Challenge 2: Perform multiplication of two 8-bit numbers, with a 16-bit output, with only a 16-bit adder, shift registers and a FSM. Somehow the inputs are placed in the registers before this circuit does its multiplication. This is called "shift and add" multiplication.

