

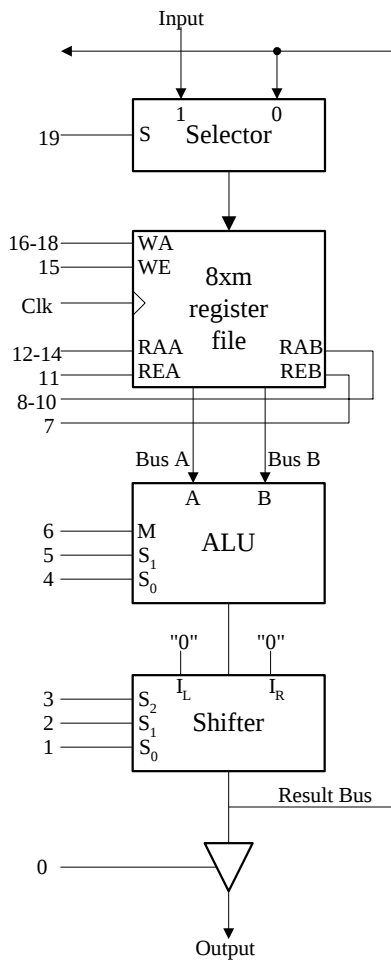
CS120B – Homework #2

Given November 2, 2001. Due November 8, 2001

- Construct a FSM that realizes the following algorithm based on the datapath below.

Input two numbers.

Output the product of the two numbers.



M	S ₁	S ₀	ALU operations
0	0	0	Complement A
0	0	1	AND
0	1	0	XOR
0	1	1	OR
1	0	0	Decrement A
1	0	1	Add
1	1	0	Subtract
1	1	1	Increment A

ALU operations

S ₂	S ₁	S ₀	Shift operations
0	0	0	Pass
0	0	1	Pass
0	1	0	Not used
0	1	1	Not used
1	0	0	Shift left
1	0	1	Rotate left
1	1	0	Shift right
1	1	1	Rotate right

Shift operations