1. Truth table

|  |  |  |  |
| --- | --- | --- | --- |
| S | A | B | out |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 1 |
| 0 | 1 | 0 | 0 |
| 0 | 1 | 1 | 1 |
| 1 | 0 | 0 | 0 |
| 1 | 0 | 1 | 0 |
| 1 | 1 | 0 | 1 |
| 1 | 1 | 1 | 1 |

1. F(s,A,B)= -s\*-A\*B+-s\*A\*B+s\*A\*-B+s\*A\*B=-sB+sA
2. <http://simulator.io/board/cJrfbylGFX/1>
3. Same
4. <http://simulator.io/board/cJrfbylGFX/2>
5. <http://simulator.io/board/45pB0lsJwe/9>
6. We first store values in R0 by setting w1w0 to 00 and putting the clk1 to 1 and 0. Then we do the same with the ACC by setting the w1w0 to 10 and again putting the clk1 to 1 and 0. Next by setting r1r0 to 00 the numbers are added in the 4 Bit ALU and to get the output the clk2 needs to be set to 1.