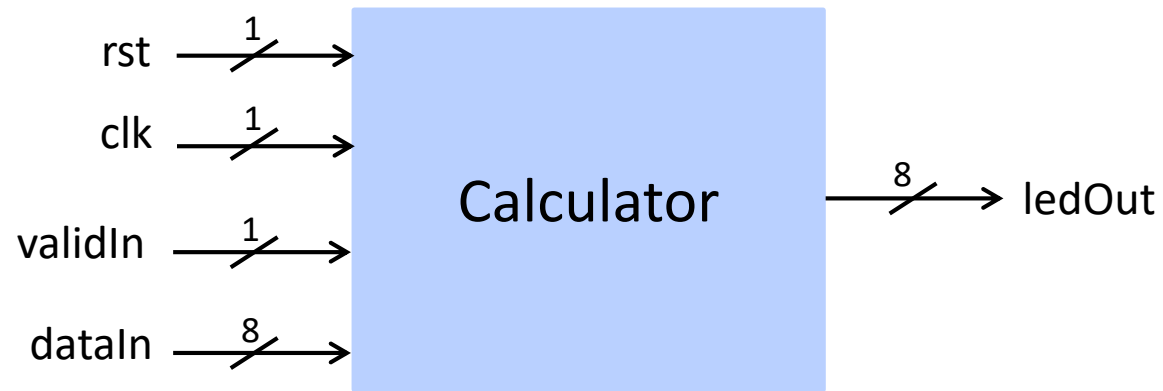


## Design Description:

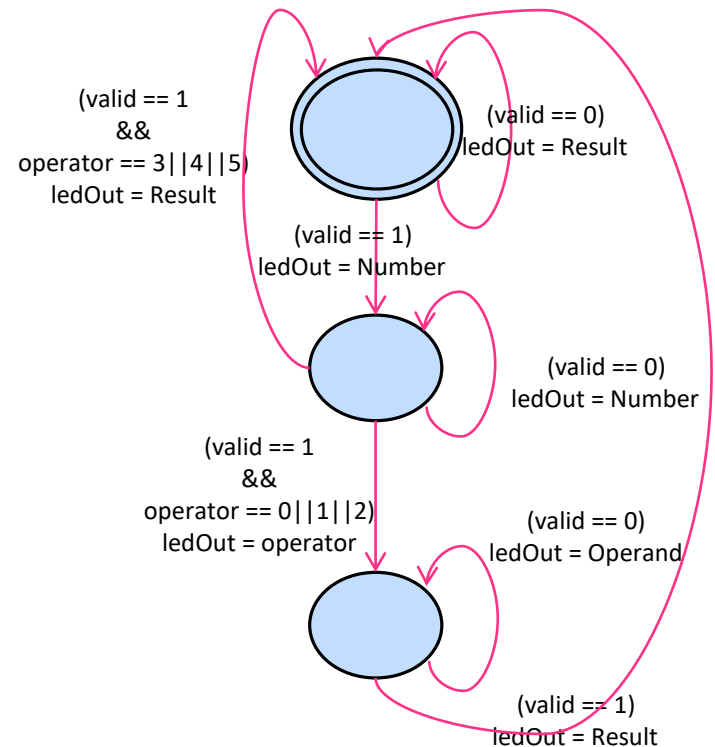
- This design is a simple **calculator** capable of 6 different operations.  
(such as: \*, +, -,  $x^2$ , ++, --)
- The design will take one number (from switches) at a time and validate the number by a 'valid' input from a push button.
- Depending on the operation, the circuit will need one or two operands, which will result in either 2 or 3 states per calculation.
- Led outputs should output the input number or operand until the result is calculated.

## Design I/O:



# Design Behavior:

- The calculator to be implemented should use the state machine to the right.
- At every state, whenever the situations shown in its brackets are satisfied, the circuit will go to the intended state and output the equation below brackets.



- 0: number\*dataIn      3: number\*number
- 1: number +dataIn    4: number +1
- 2: number -dataIn    5: number -1