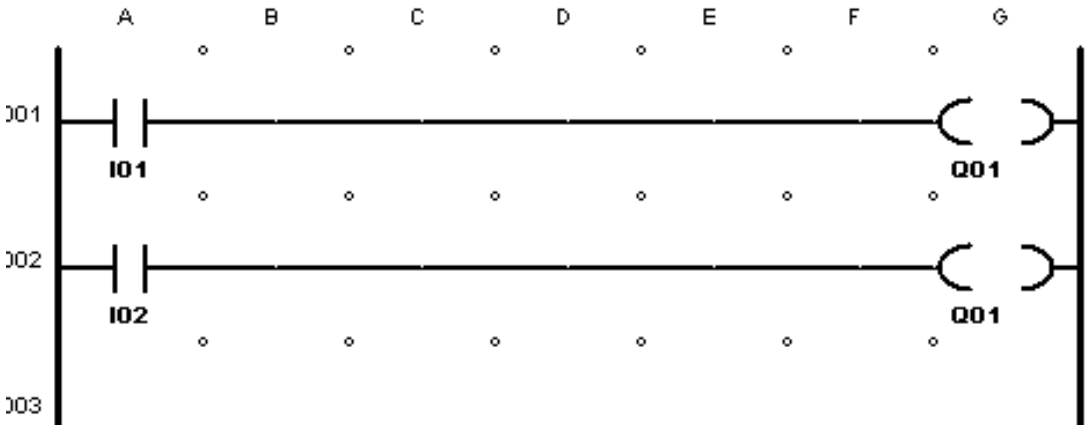
Suppose that we have the following ladder logic program. There are two input switches and one output.



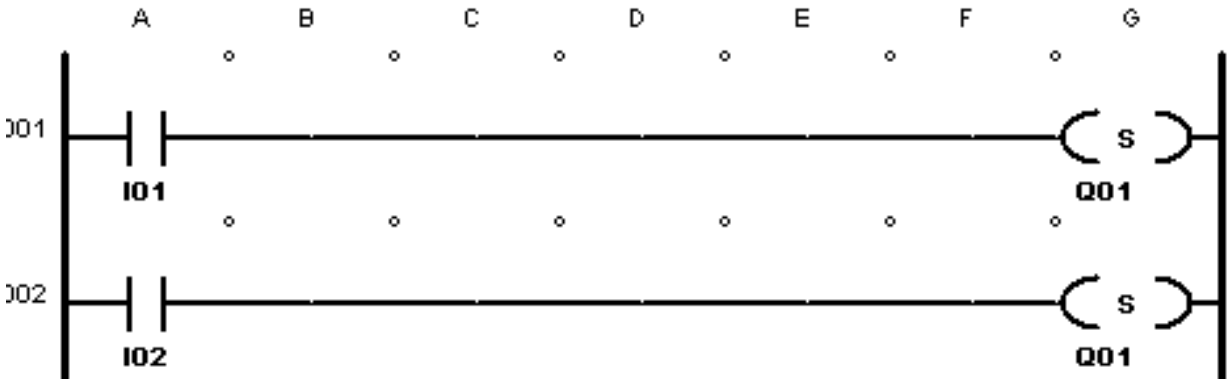
If we push I01 and hold it down, does Q01 come on? (Explain. Try it.)

What if we push I02 and hold it on? Does Q01 come on then? (Explain. Try it.)

What if we switch the order of the two rungs?

Moral/Rule:

Now we change the ladder logic program slightly. There are two input switches and one output, but this time we "set" the output rather than using it as a contactor.



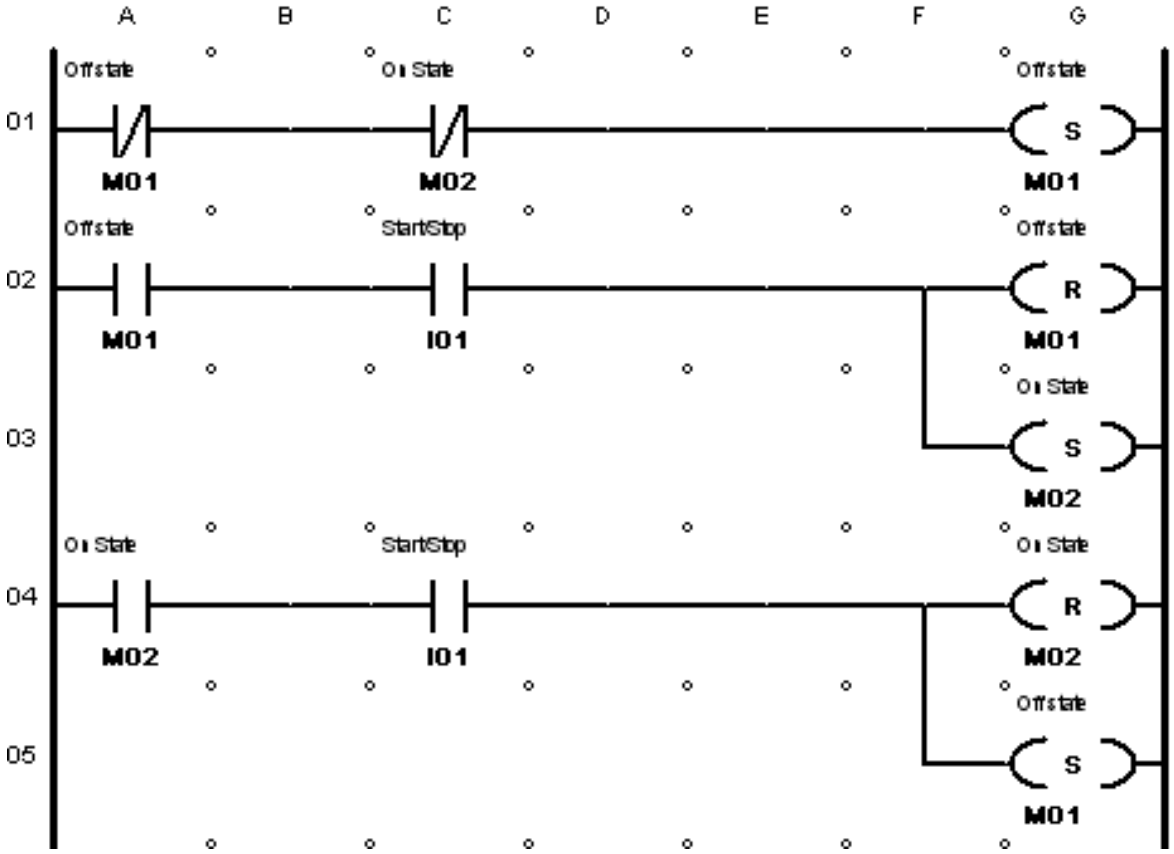
If we hold down I01, does Q01 come on? (Explain. Try it.)

If we hold down I02, does Q01 come on then? (Explain. Try it.)

What if we switch the order of the two rungs?

Moral/Rule:

Now we will look at a structure related to the conveyor belt. We have an “off” state (M01) and an “on” state (M02). When we hit the button I01 we want to switch from one state to the other. The proposed ladder logic is shown below.



When we start the simulation, M01 goes true and the system is off. However, when we press and hold I01, the program flashes randomly between M01 and M02. (Try it.) Why is that? (Hint: here drawing a Finite State Machine is very illuminating.)

Moral/Rule: