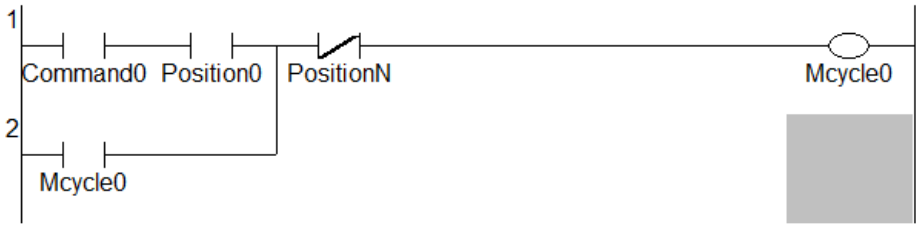
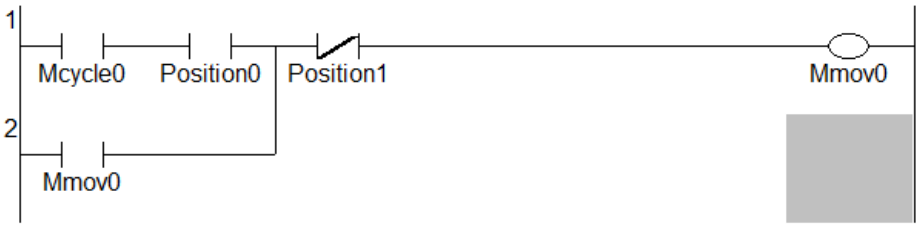
Start/stop ladder circuit problem solving

Start/Stop for cycles and movements

For every distinguishable cycle or stage numbered *i* on the machine to control, use a start/stop circuit with a mark or memory relay Mcycle*i* as output. The cycle is triggered by a combined situation of a Command*0* in this example (it could be a push button) and a start position of the machine, e.g. Position*0*. For finishing the cycle, its last Position*N* is evaluated.



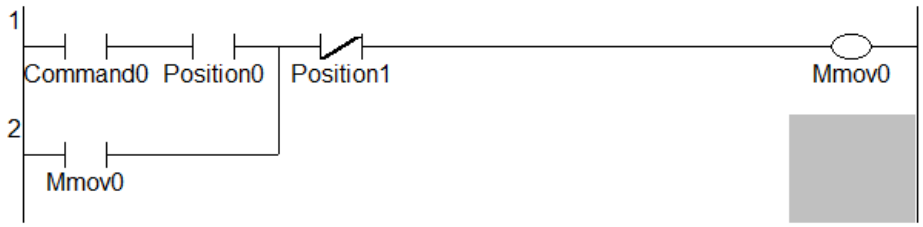
When every cycle on the machine to control is distinguished with a memory relay Mcycle*i*, start to identify every movement in the cycle with a memory relay Mmov*j*, with its own start and final positions; in this example, Position*0* and Position*1* for memory relay Mmov*0*.



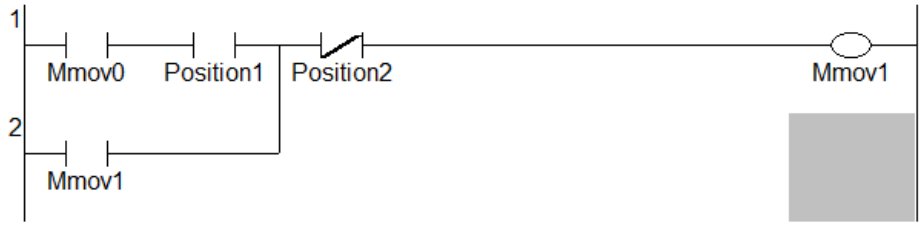
After that, every memory relay Mmov*j* with the same movement as output in the machine, are added to a parallel circuit triggering the real output relay Qmov*k* for that actuator or motor (Move to the Right in this example).

Start/Stop for movements on a sequence

Another way of solving sequence of movements on a machine to control, is using first a start/stop circuit for every movement with a memory relay Mmov*j* as output. Here as an example, the first order or command *Command0* (e.g. a push button) combined with the start position Position*0*, triggered memory relay Mmov*0*, until Position*1* is reached.



Then trigger every movement with the previous one, i.e. *Mmovj* combined with the start position of the next movement will trigger its own memory relay *Mmov(j+1)*, until end position for that movement is reached.



After that, every memory relay Mmov*j* with the same movement as output in the machine, are added to a parallel circuit triggering the real output relay Qmov*k* for that actuator or motor (Move to the Left in this example).

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