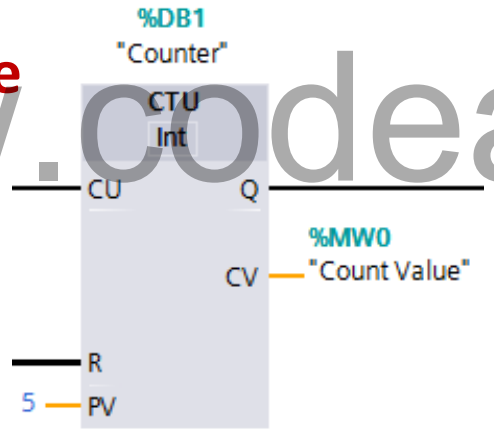
Siemens S7-1200

CPU 1212C AC/DC/Relay

Counter Operations (CTU)

- **Count Up**
- **Exercise Example**



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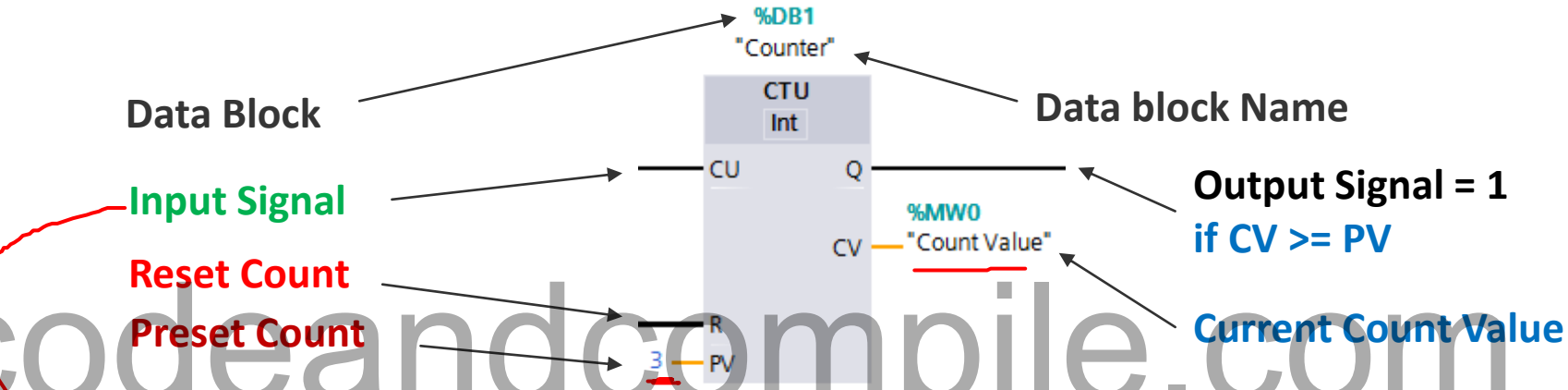
Counter Operations in LAD – **CTU (Count Up)**

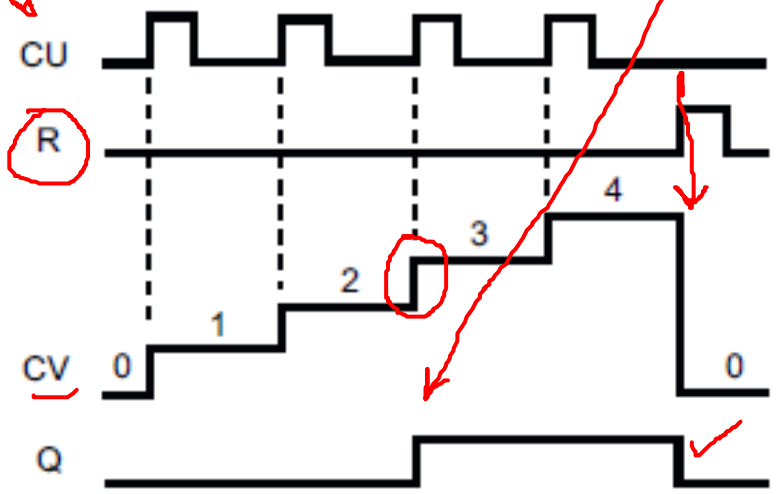
Count Up

The "**count up**" counter (CTU) **counts up by 1** when the value of the input parameter **CU changes from 0 to 1.**

Counter operations	
CTU	Count up
CTD	Count down
CTUD	Count up and down



Example If Preset Count = 3



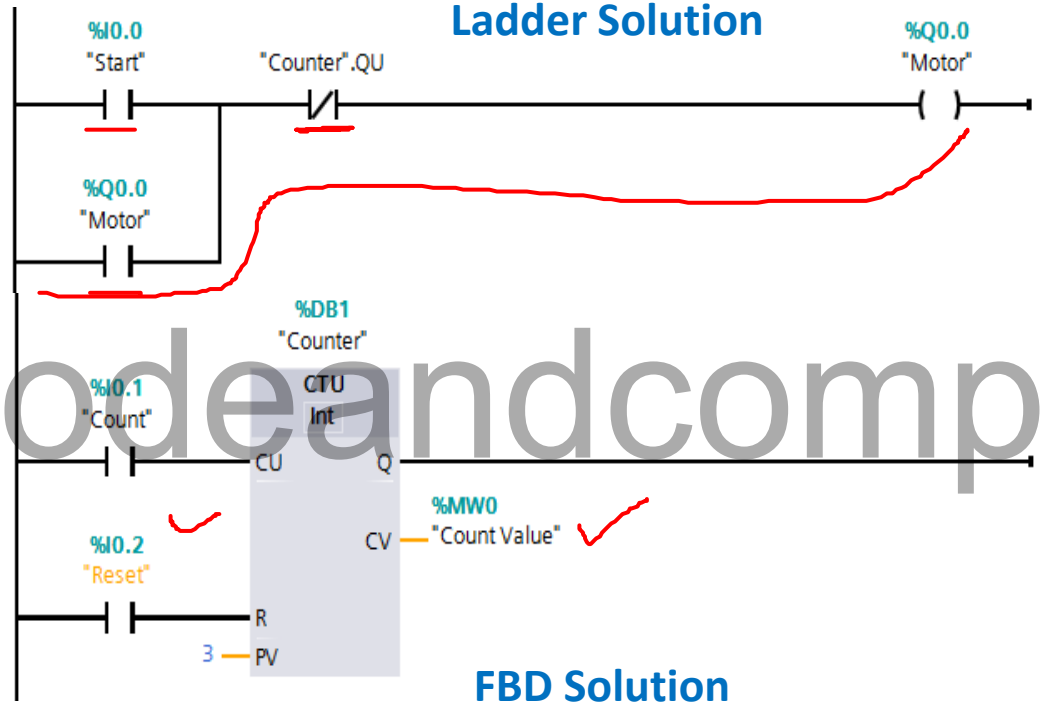
DID YOU KNOW ?

The **number of counters** that you can use in your user program is **limited only by the amount of memory in the CPU**. Individual counters use 3 bytes (for SInt or USInt), 6 bytes (for Int or UInt), or 12 bytes (for DInt or UDInt).

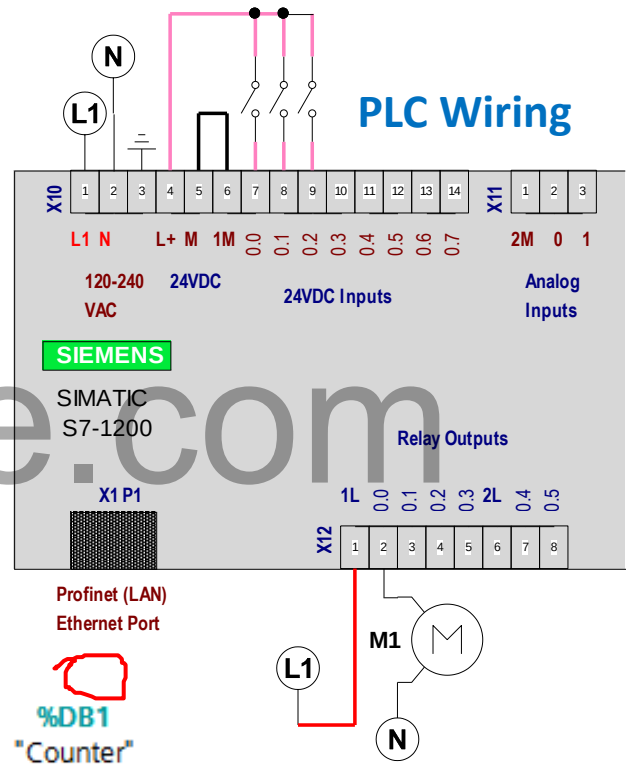
Exercise Example

Write a Logic to latch the output Q0.0 using I0.0. Unlatch the output if I0.1 goes from (0 – 1) 10 times (counts). Use I0.2 to reset the counter

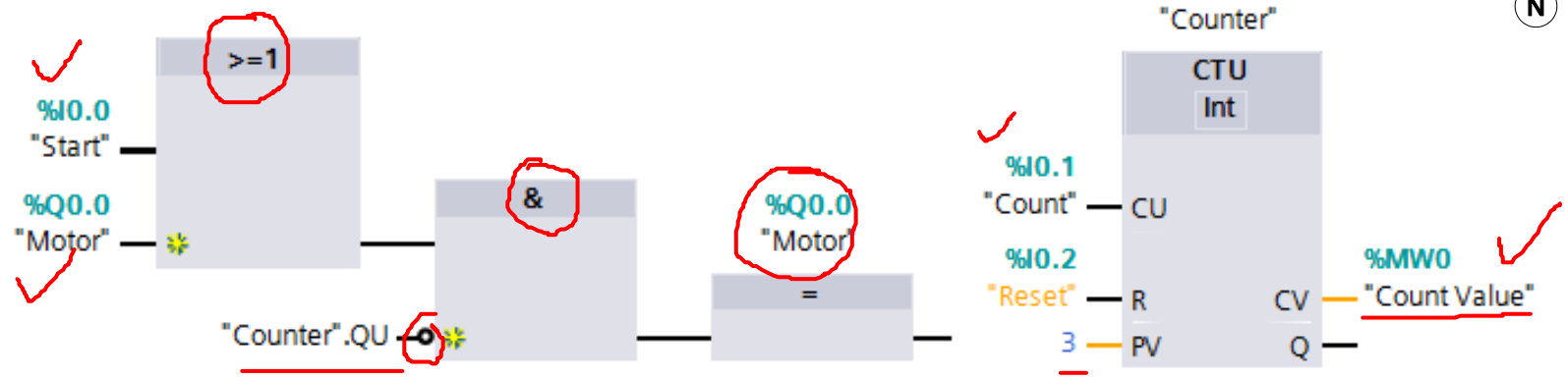
Ladder Solution



PLC Wiring



FBD Solution



What did we learn in this lesson?

- Counter are used to **generate the output** on **specific count of input**
- If the value of **parameter CV (current count value)** is greater than or equal to **the value of parameter PV (preset count value),** then the **counter output parameter Q = 1.**
- If the value of the **reset parameter R changes from 0 to 1,** then **CV is reset to 0.**

Thank you

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