Siemens S7-1200

CPU 1212C AC/DC/Relay

Shift and Rotate Operations

- **Shift Right**
- **Shift Left**
- **Rotate Right**
- **Rotate Left**

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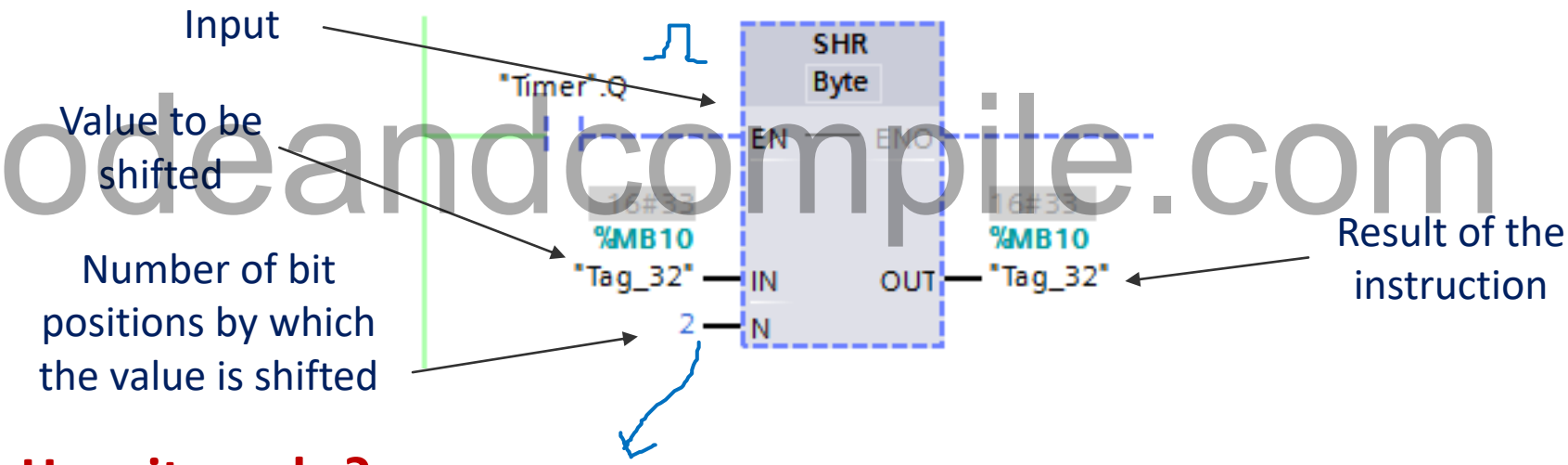
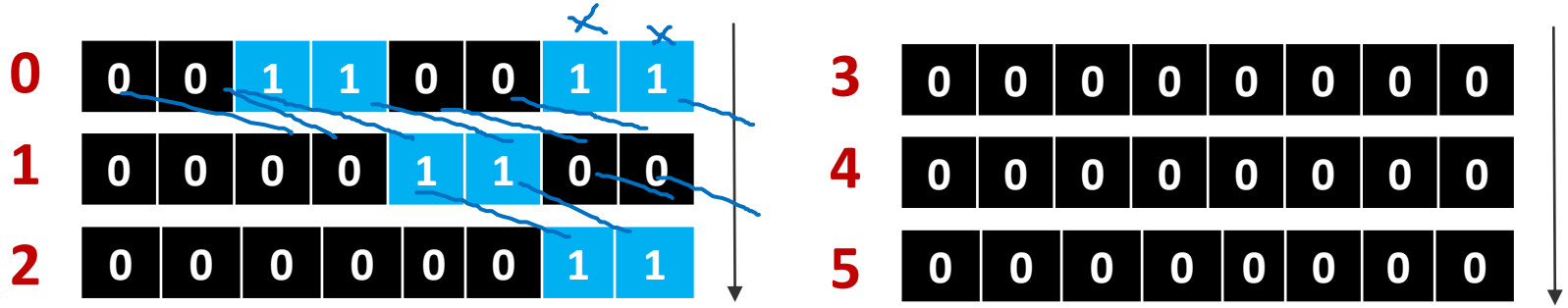
Understanding Word Operations – **SHIFT RIGHT**

Shift Right

You can use the "Shift right" instruction to **shift the content of the operand at the input IN bit-by-bit to the right** and query the result at the OUT output. You use the **N parameter** to specify **the number of bit positions by which the specified value is to be shifted.**

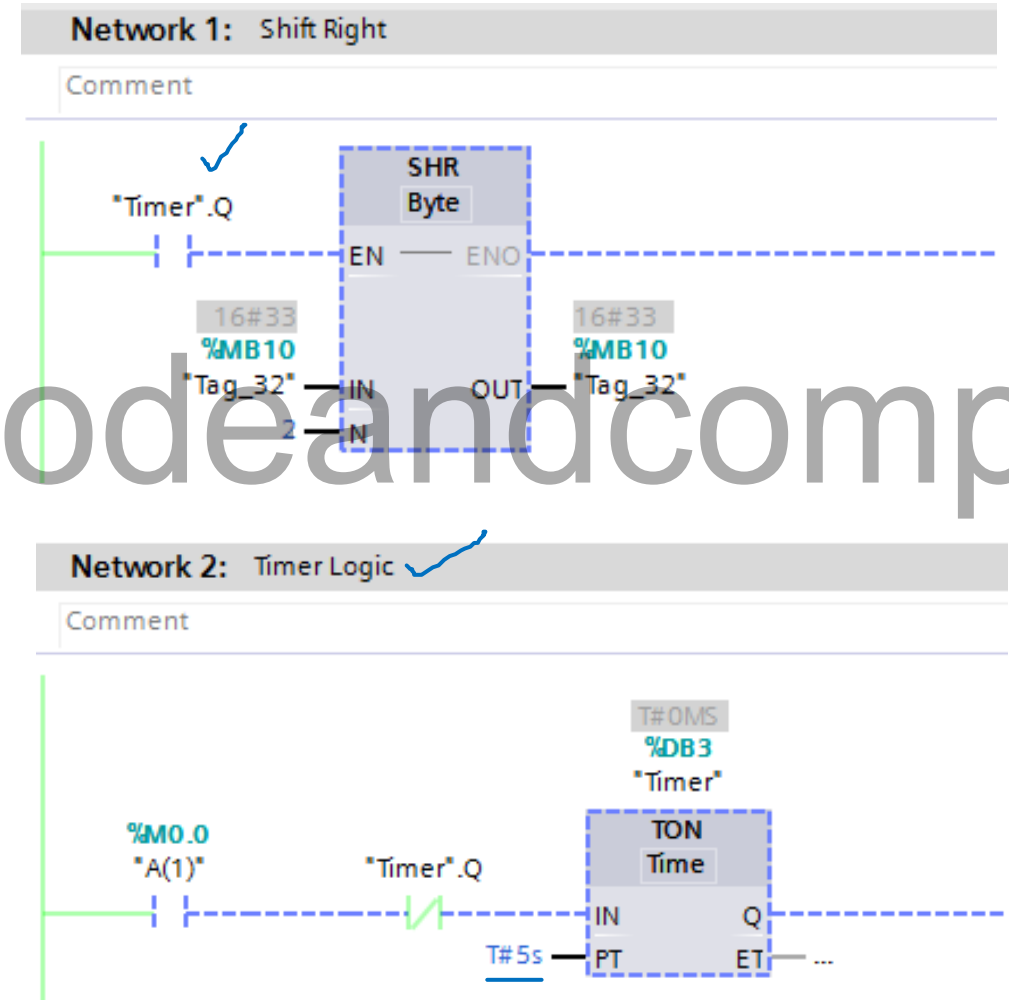


How it works?

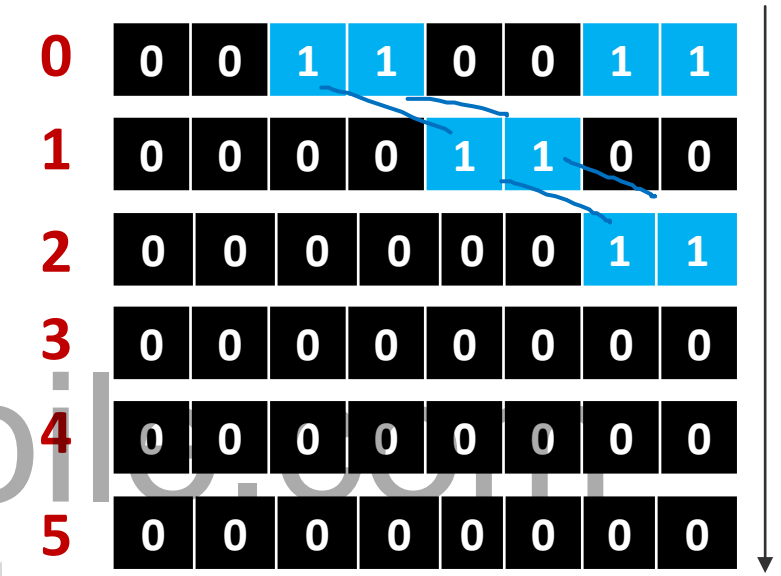


Understanding Word Operations – SHIFT RIGHT

Shift Right- Example



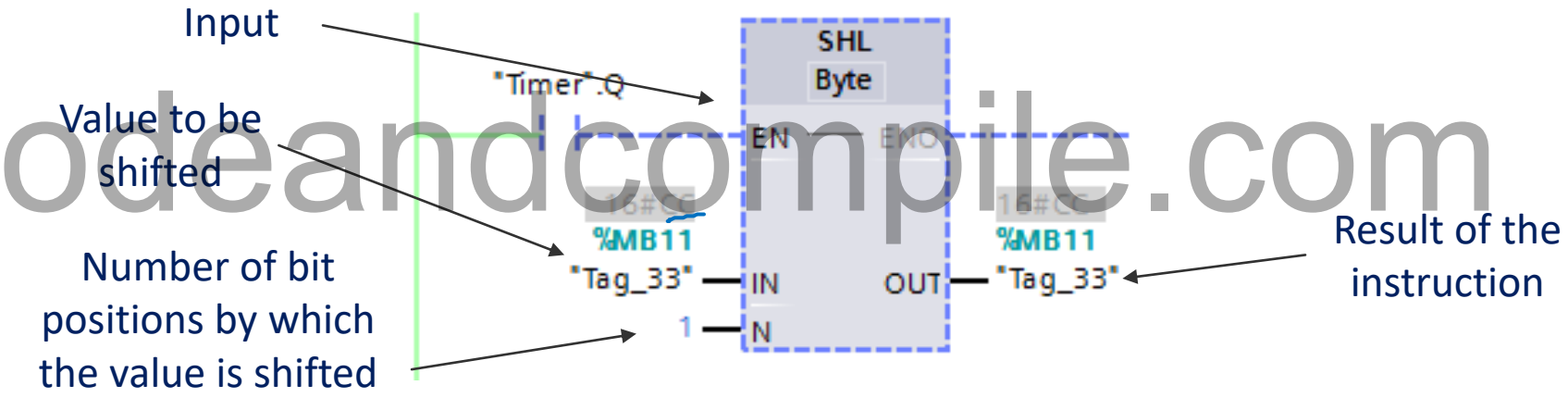
At every pulse!



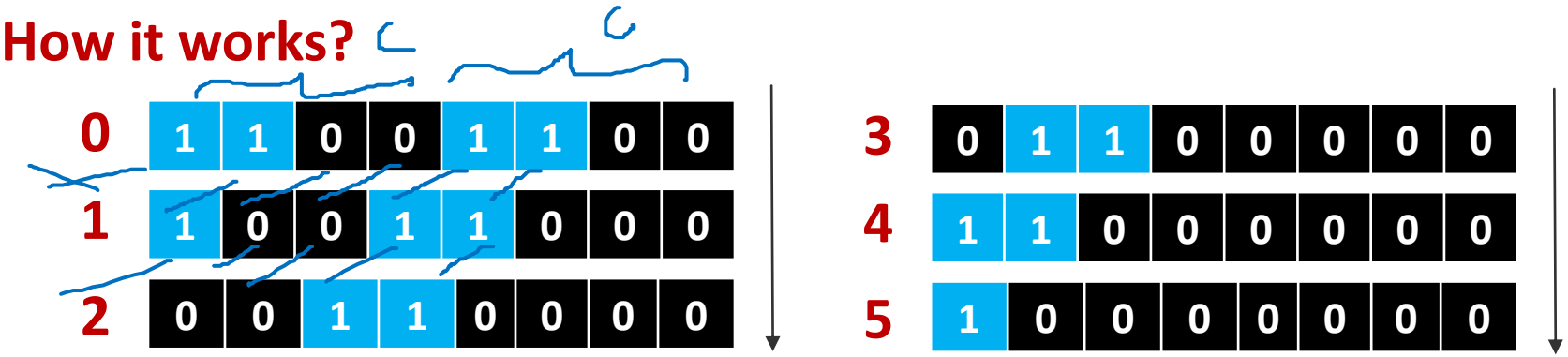
Understanding Word Operations – **SHIFT LEFT**

Shift Left

You can use the "**Shift left**" instruction to **shift the content of the operand at the input IN bit-by-bit to the left** and query **the result at the OUT output**. You use the **N parameter to specify the number of bit positions by which the specified value is to be shifted**.



How it works?

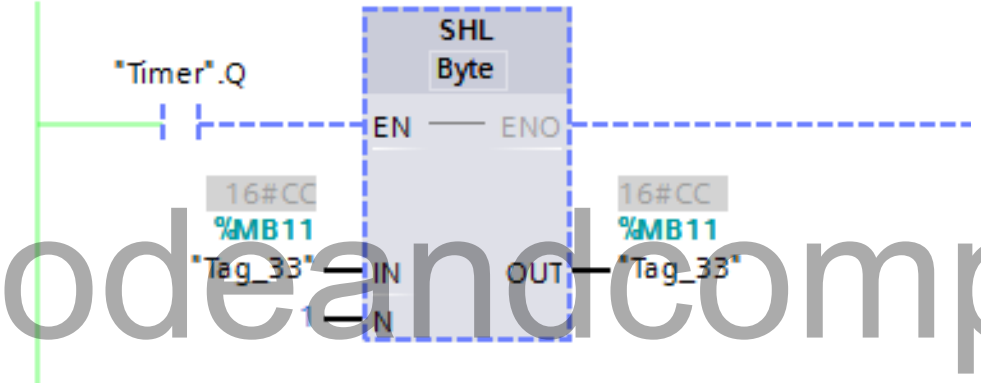


Understanding Word Operations – SHIFT LEFT

Shift Left- Example

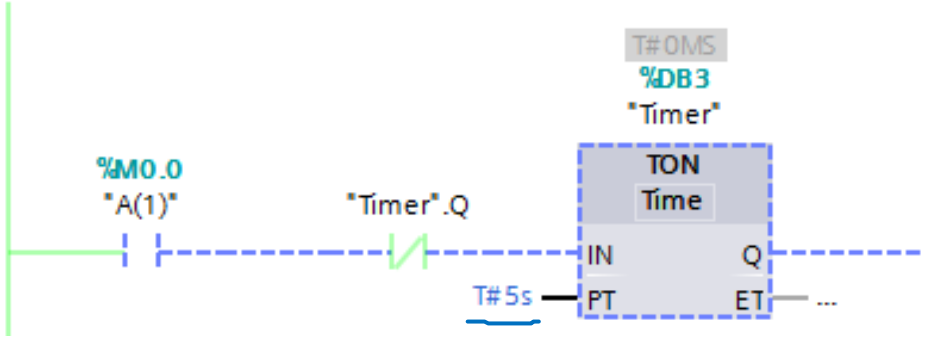
Network 2: Shift Left

Comment

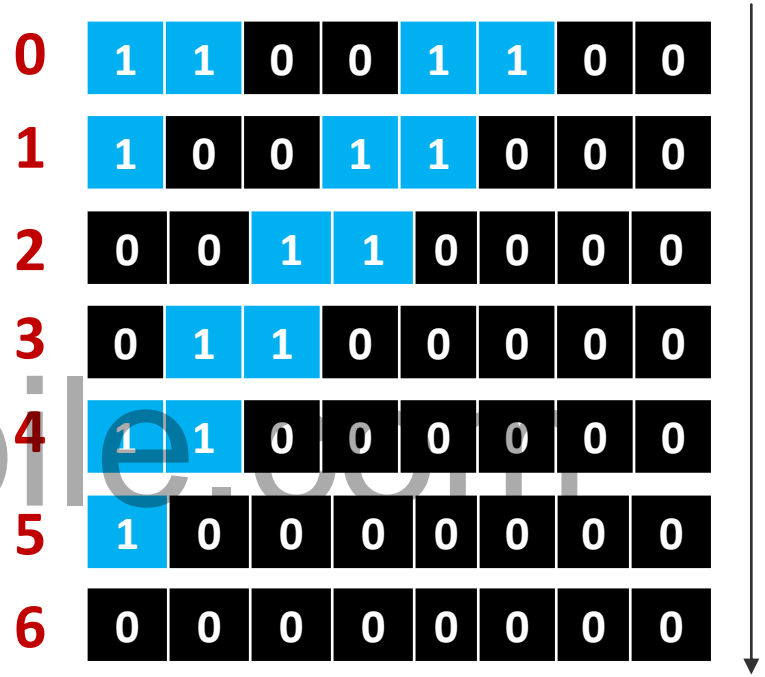


Network 3: Timer Logic

Comment



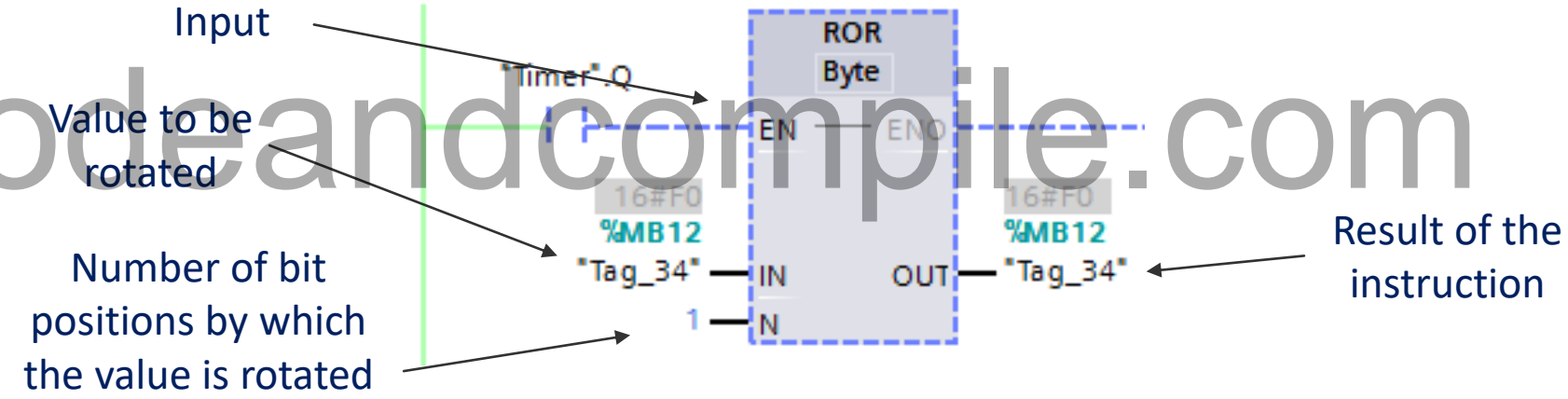
At every pulse!



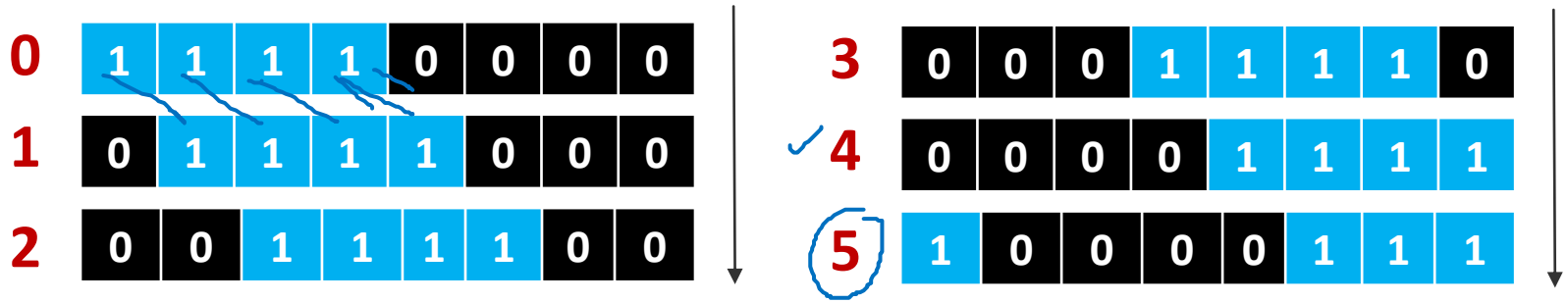
Understanding Word Operations – **ROTATE RIGHT**

Rotate Right

You can use the "**Rotate right**" instruction to **rotate the content of the operand at the input IN bit-by-bit to the right** and **query the result at the OUT output**. You use the **N parameter to specify the number of bit positions by which the specified value is to be rotated.**

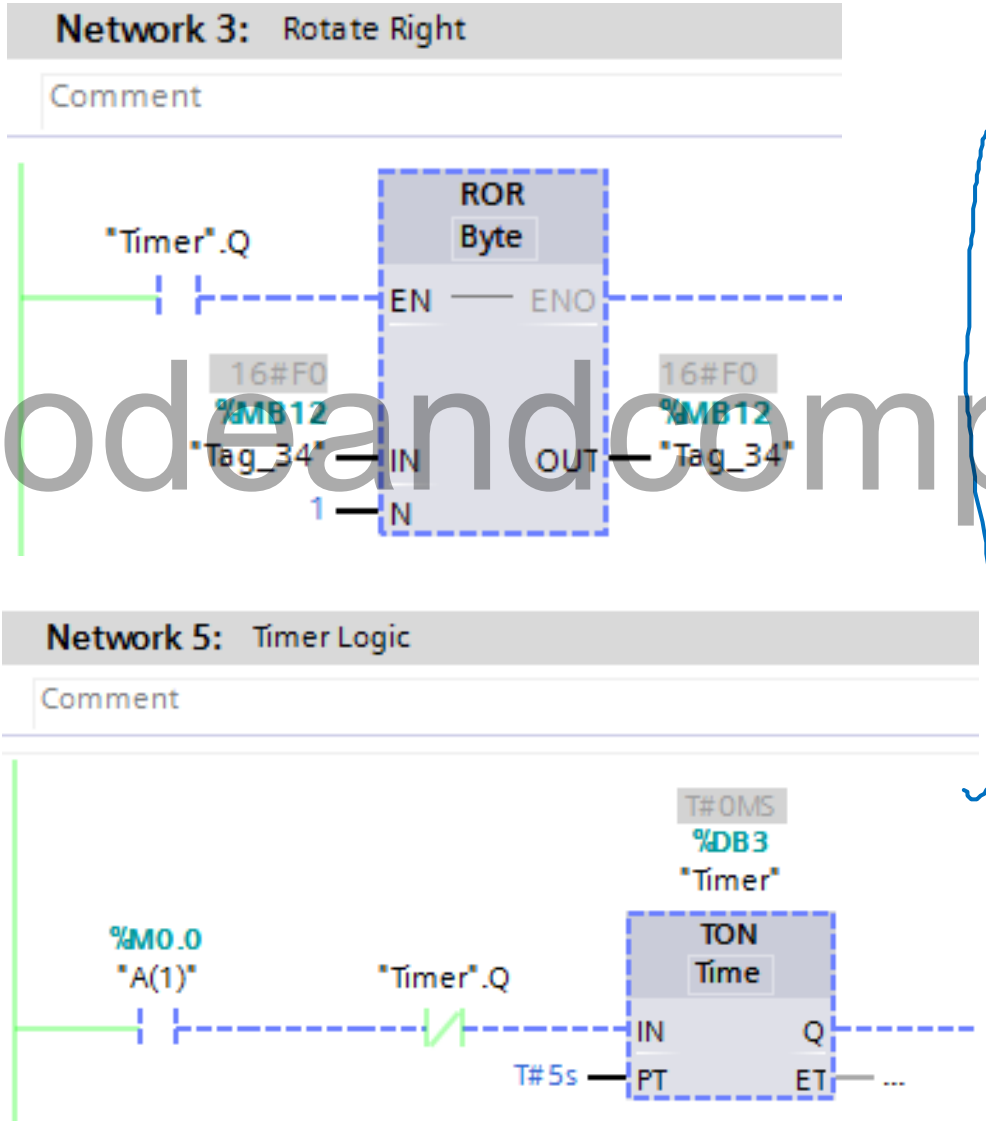


How it works?

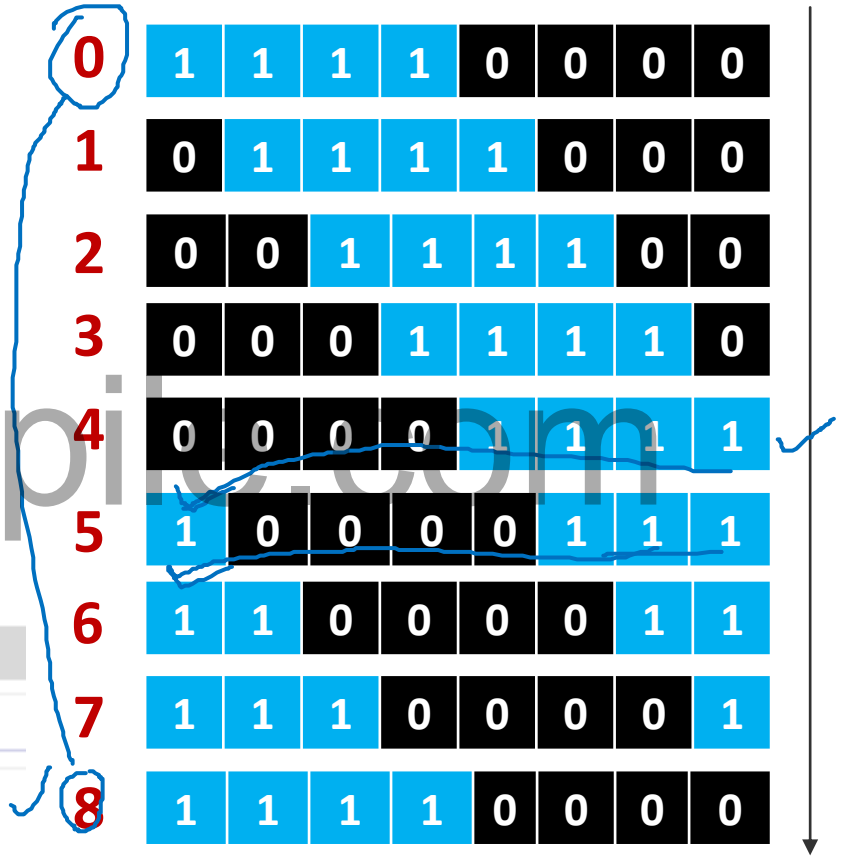


Understanding Word Operations – ROTATE RIGHT

Rotate Right- Example



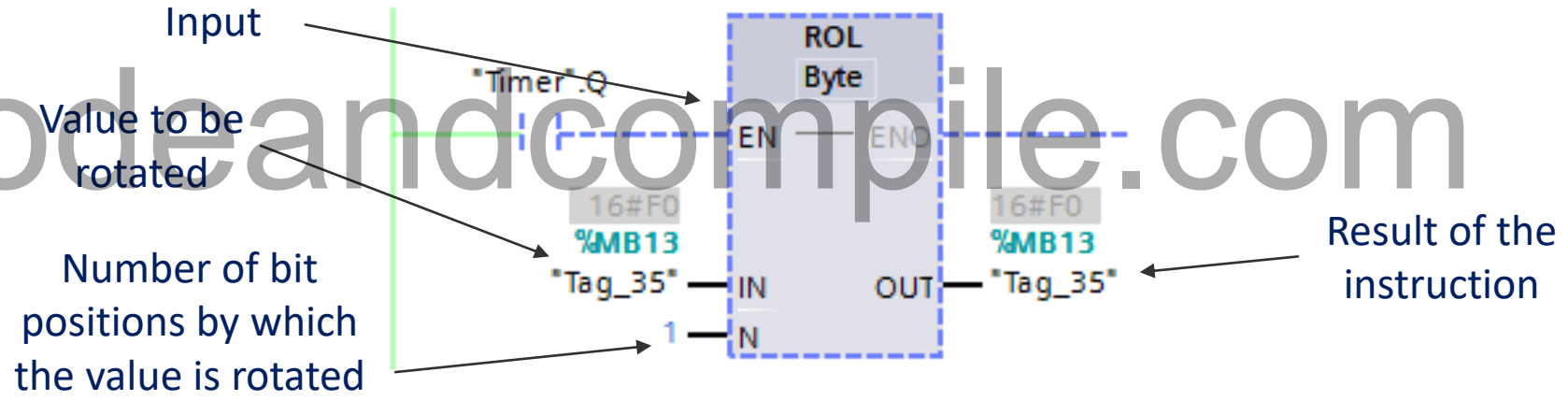
At every pulse!



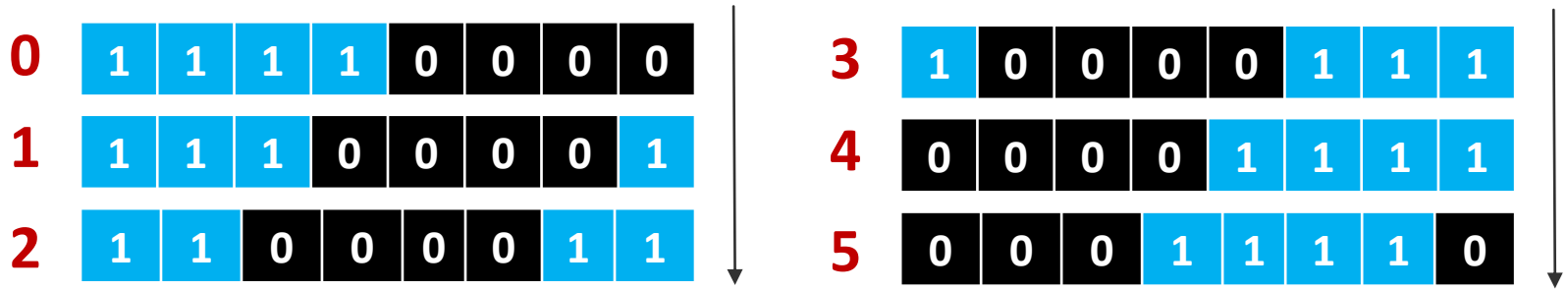
Understanding Word Operations – **ROTATE LEFT**

Rotate Left

You can use the "**Rotate left**" instruction to **rotate the content of the operand at the input IN bit-by-bit to the left** and **query the result at the OUT output**. You use the **N parameter to specify the number of bit positions by which the specified value is to be rotated**.



How it works?

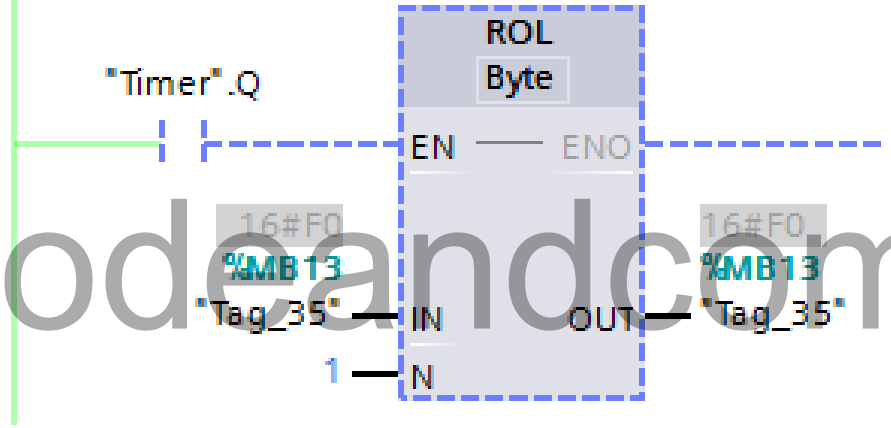


Understanding Word Operations – ROTATE LEFT

Rotate Left- Example

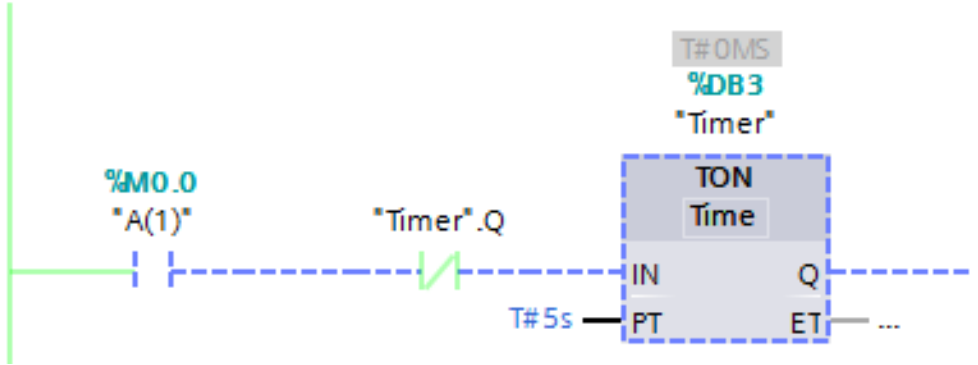
Network 4: Rotate Left

Comment

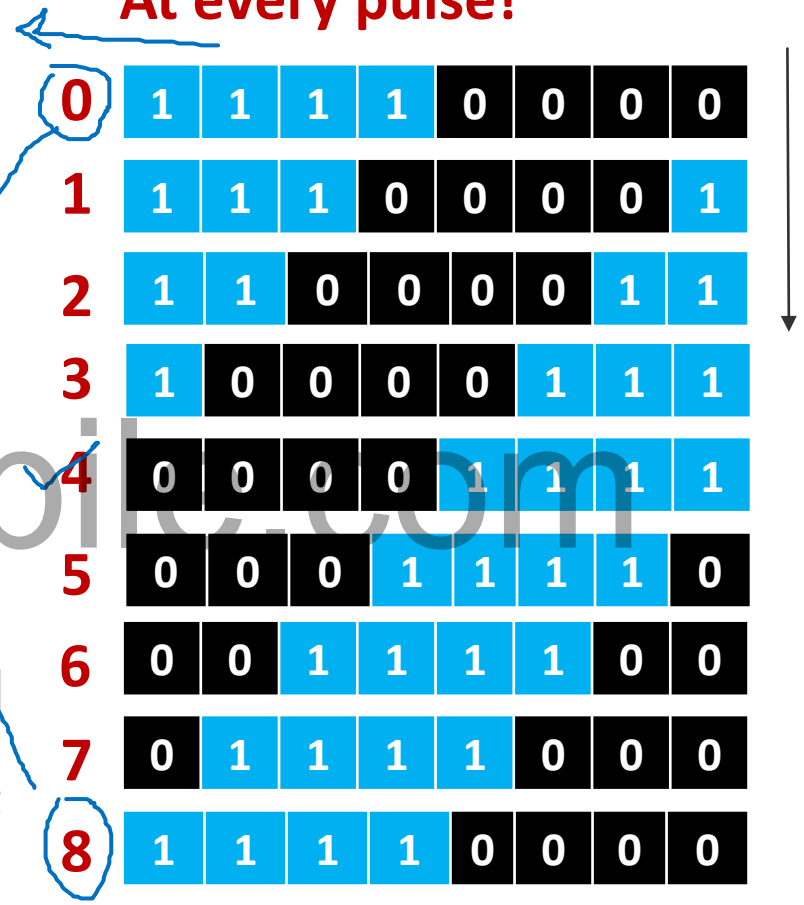


Network 5: Timer Logic

Comment



At every pulse!



What did we learn today?

- **Shift Right:** used to shift the content of the operand at the input IN bit-by-bit to the right and query the result at the OUT output
- **Shift Left:** used to shift the content of the operand at the input IN bit-by-bit to the left and query the result at the OUT output
- **Rotate Right:** used to rotate the content of the operand at the input IN bit-by-bit to the right and query the result at the OUT output
- **Rotate Left:** used to rotate the content of the operand at the input IN bit-by-bit to the left and query the result at the OUT output

Thank you

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