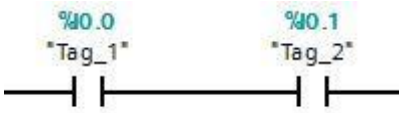
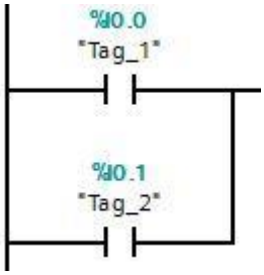
Quiz 3 – Understanding Bit Logic Operations in TIA

1. Which **logic gate** does it represents?



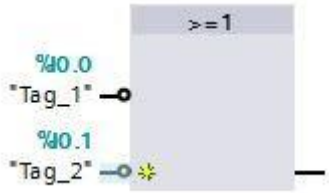
- XOR
- OR
- **AND**
- NAND
- NOR

2. Which logic gate does it represents?



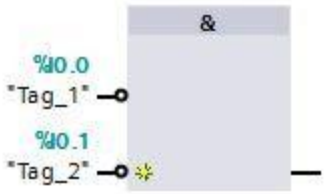
- AND
- NAND
- **OR**
- NOR
- XOR

3. Which logic gate does it represents?



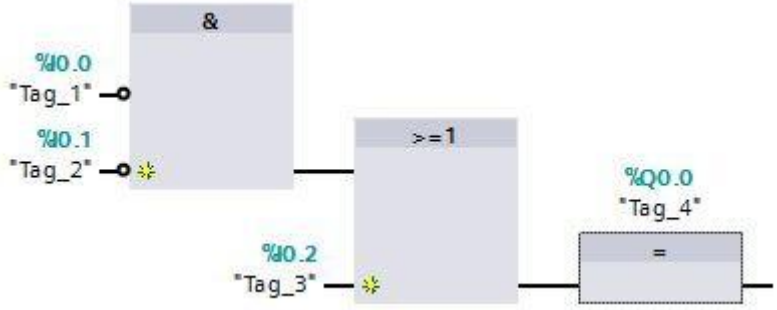
- NOR
- **NAND**
- XOR

4. Which logic gate does it represents



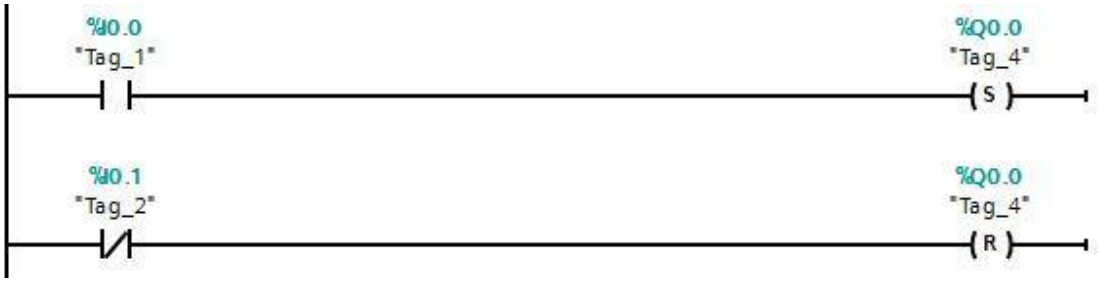
- **NOR**
- NAND
- XOR

5. What will be the output if **all three inputs (I0.0, I0.1, I0.2)** are **true?**



- **Q0.0 will be TRUE**
- Q0.0 will be FALSE

6. In which of the case the **output will be TRUE** considering on the inputs **NO switch is connected?**

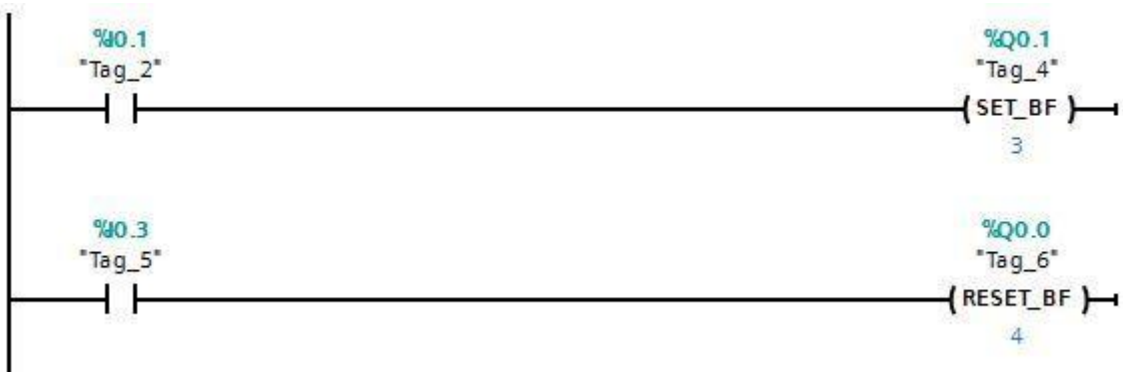


- If I0.0 is TRUE and I0.1 is FALSE
- If I0.0 is FALSE and I0.1 is TRUE
- **If both inputs are TRUE**
- If both inputs are FALSE

7. What will happen if both the inputs **(I0.0 and I0.1)** are **FALSE**?
   (By FALSE we mean there is no external voltage signal at PLC external input terminal)

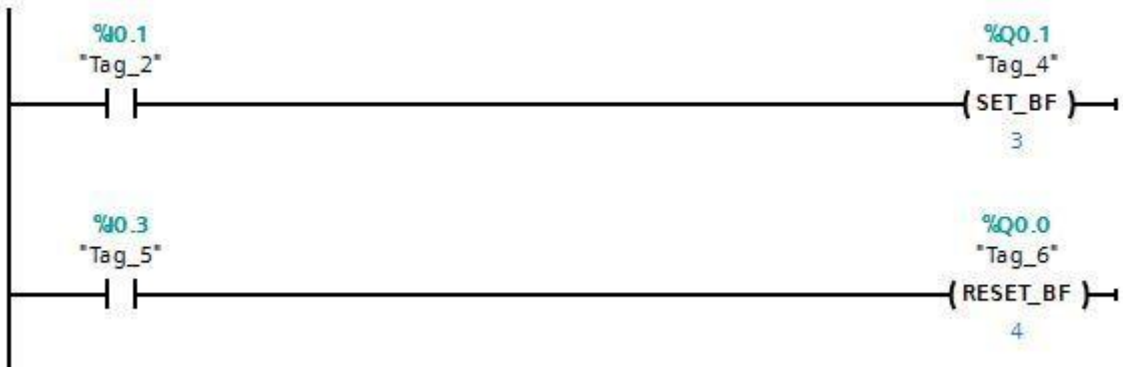
- **Output will be TRUE**
- Output will be FALSE

8. In the below PLC logic**, which of the outputs** will be ON when **I0.1 is TRUE?**



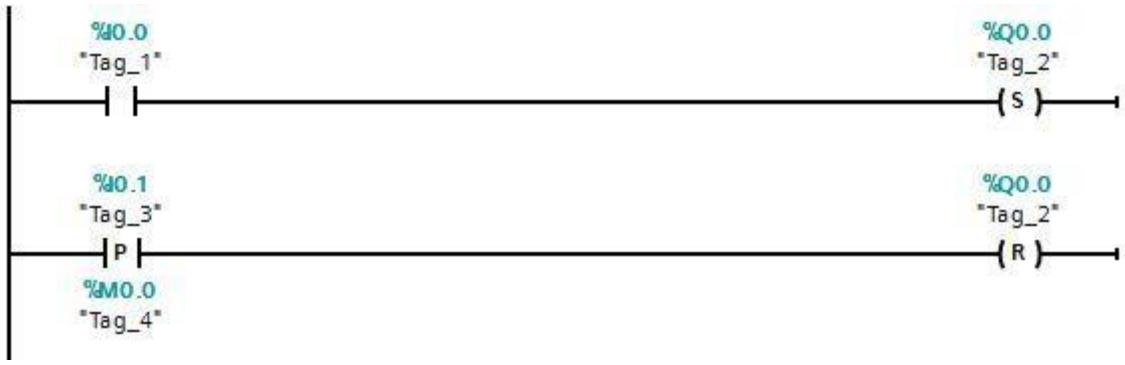
- Q0.0
- Q0.0 ~ Q0.3
- Q0.1 ~ Q0.4
- Q0.0 ~ Q0.4
- **Q0.1 ~ Q0.3**

9. What will happen when both the **Inputs I0.1 and I0.3** are true?



- Q0.1 ~ Q0.3 will be TRUE
- Q0.0 ~ Q0.3 will be FALSE and Q0.4 will be TRUE
- Q0.0 ~ Q0.4 will be TRUE
- **Q0.0 ~ Q0.3 will be FALSE**

10. What will the state of Output **Q0.0** if both the inputs **(I0.0 and I0.1) are TRUE (for instance 1 second)?**



- **Q0.0 will be TRUE**
- Q0.0 will be FALSE

11. Positive Edge contact is TRUE when a _____ transition is detected on its operand
- ON - OFF
- **OFF – ON**

12. Negative Edge contact is TRUE when a _____ transition is detected on its operand
- **ON – OFF**
- OFF - ON