

# binary image

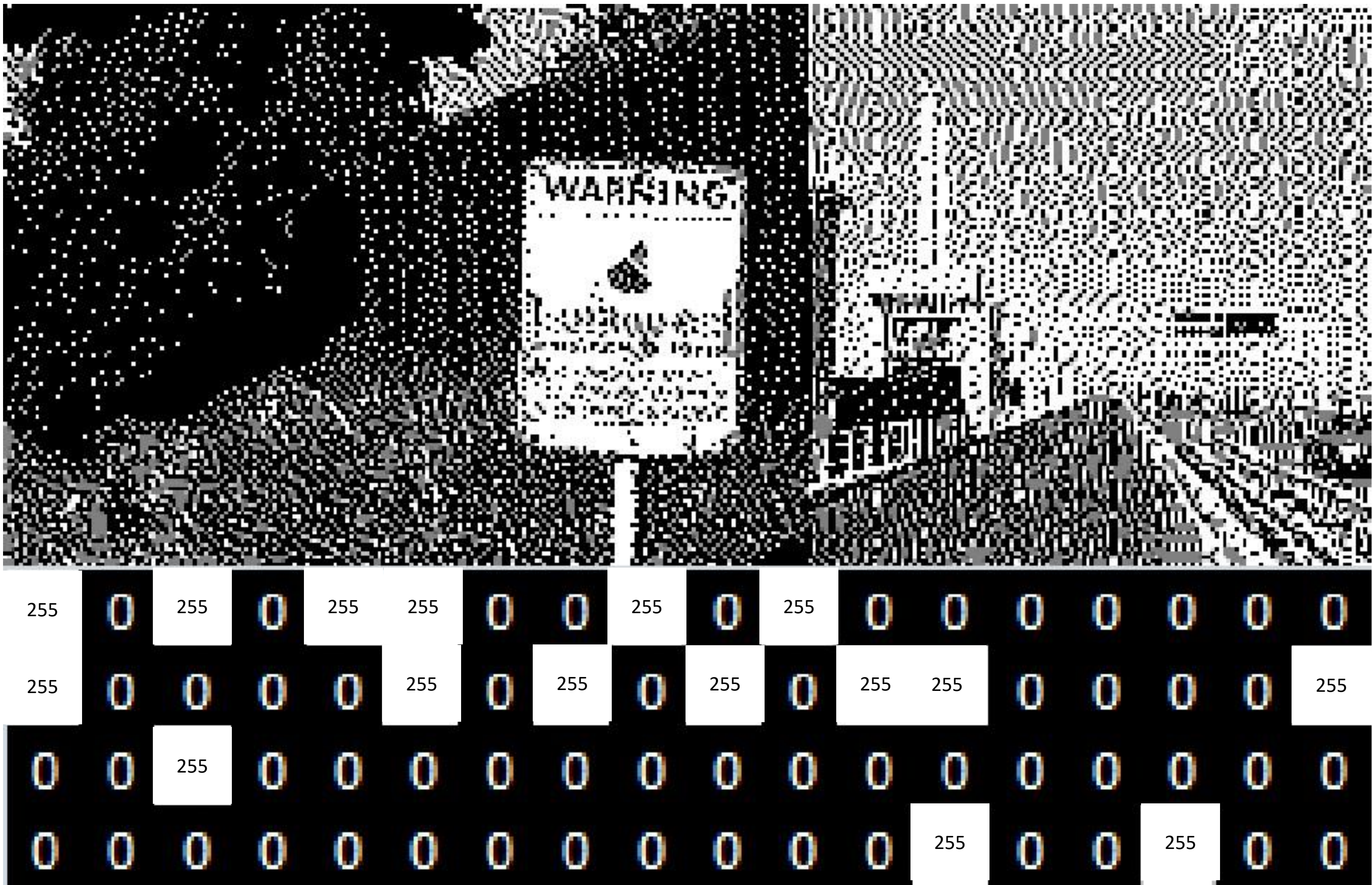
# Binary Image

---

- A binary image is consists of exactly two colors.
  - **Black**
  - **White**
- Also referred as **1-Bit** Image



# Binary Image



# bitwise operations



**1. logical AND**

**2. logical OR**

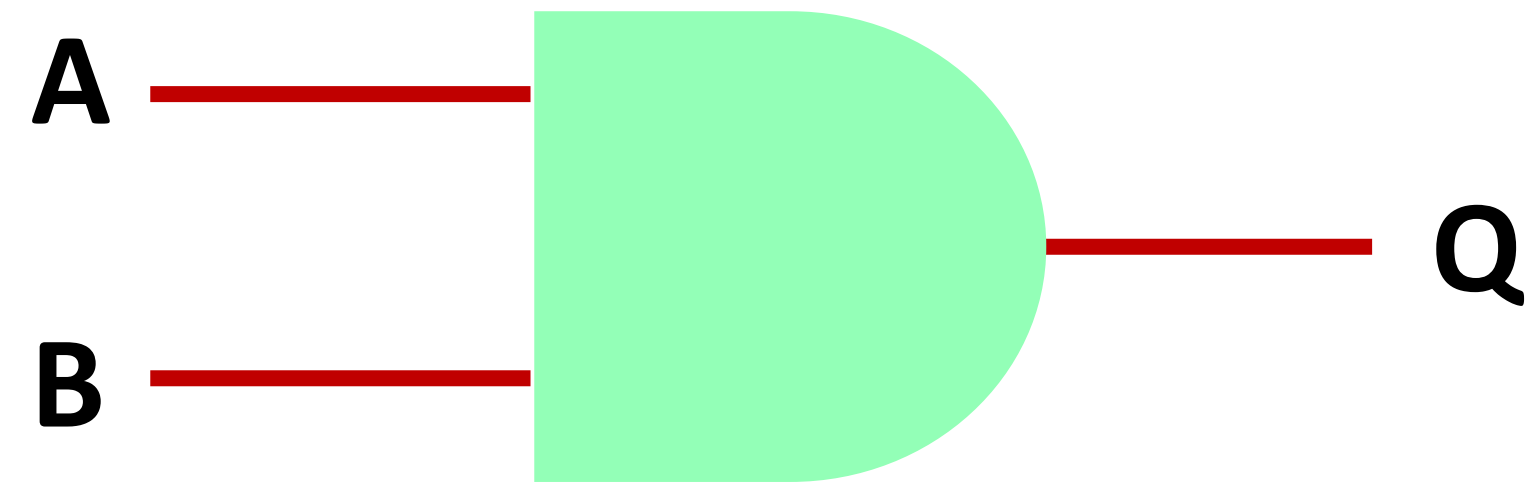
**3. logical NOT**

**4. logical XOR**

# Logical AND

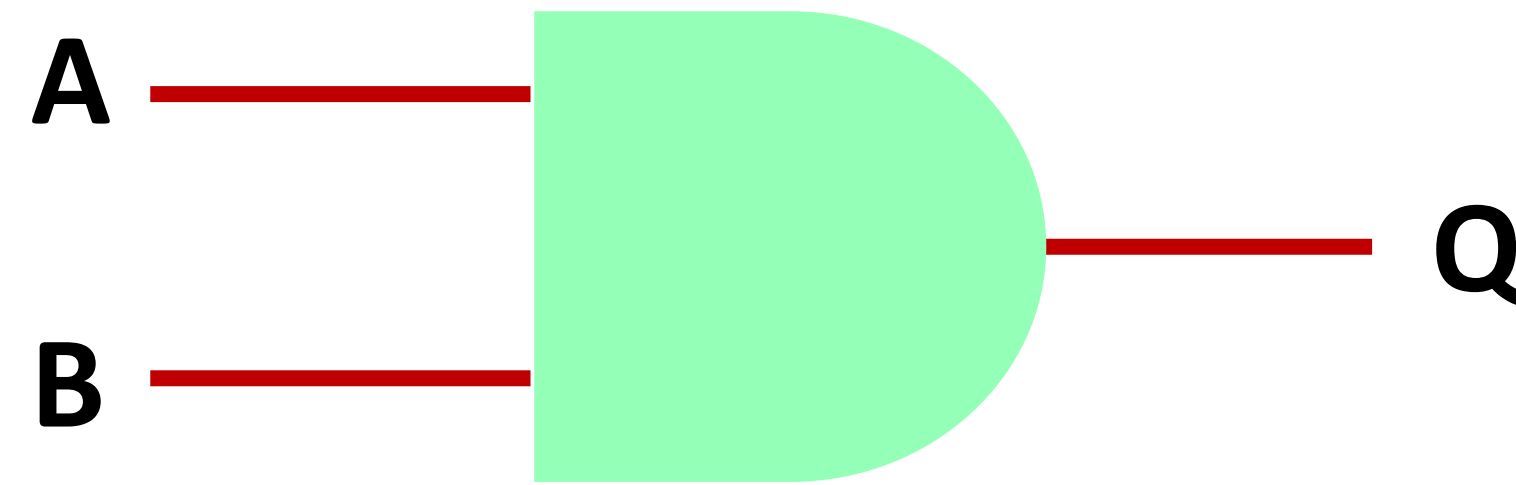
Bitwise Operations

# Logical AND



A	B	Q
0	0	0
0	1	0
1	0	0
1	1	1

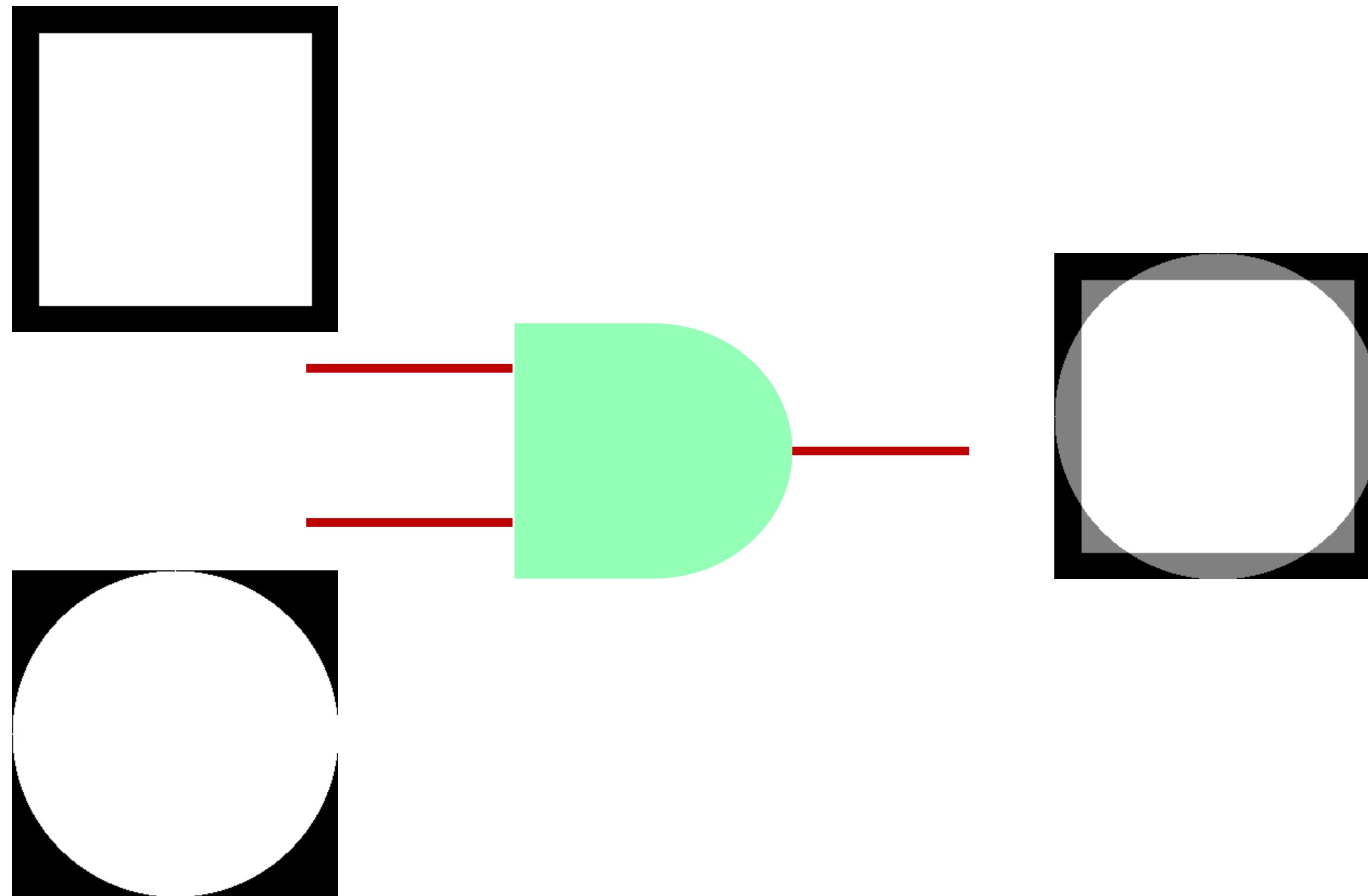
# Logical AND to an Image



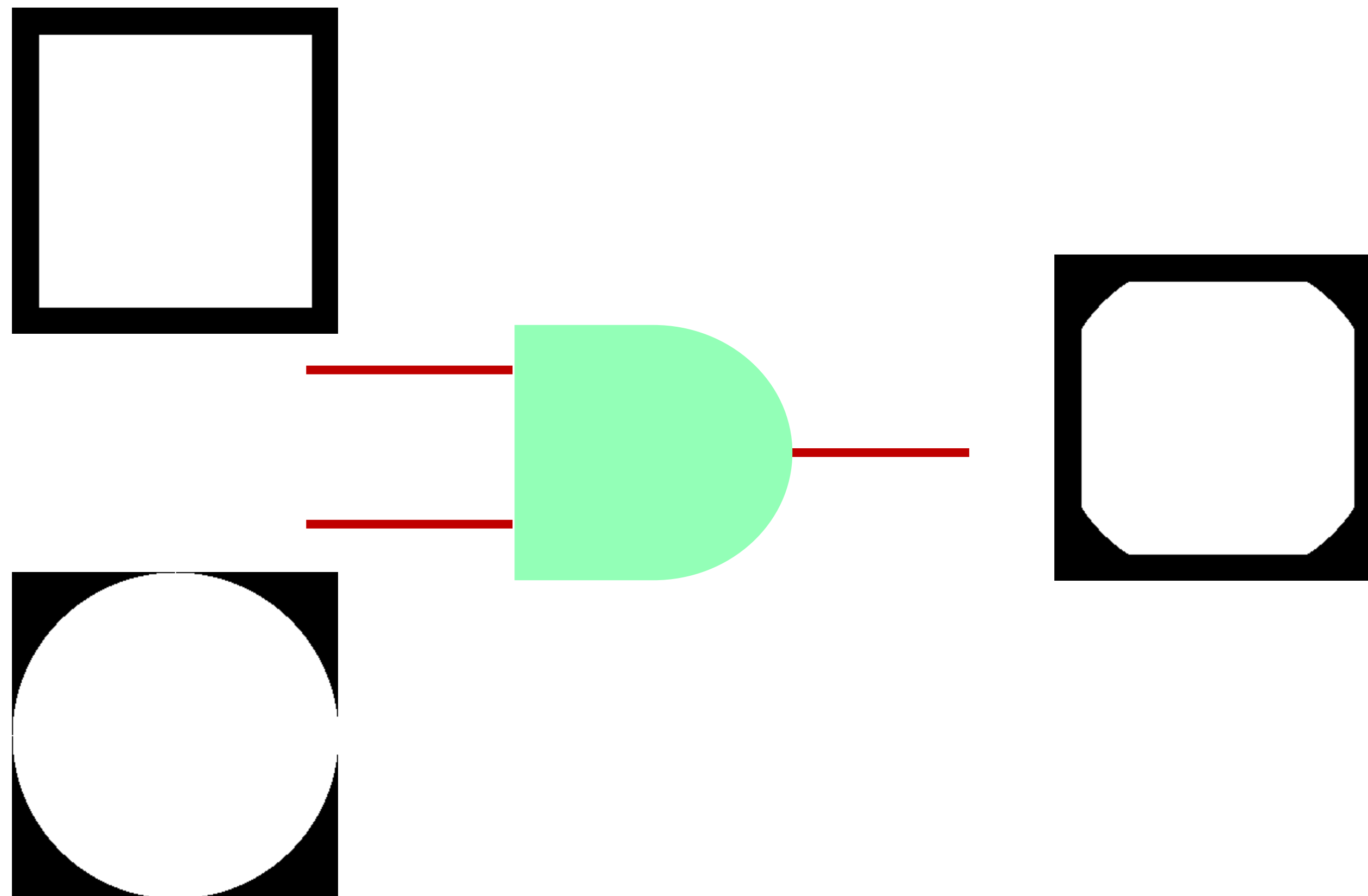
Intersection



# Bitwise AND



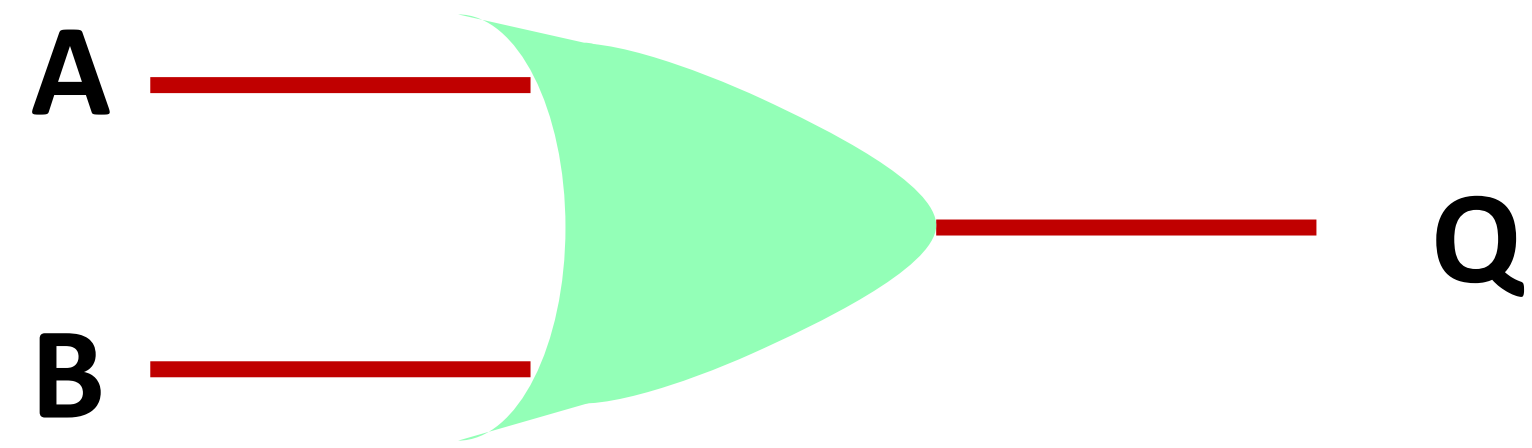
# Bitwise AND



# Logical OR

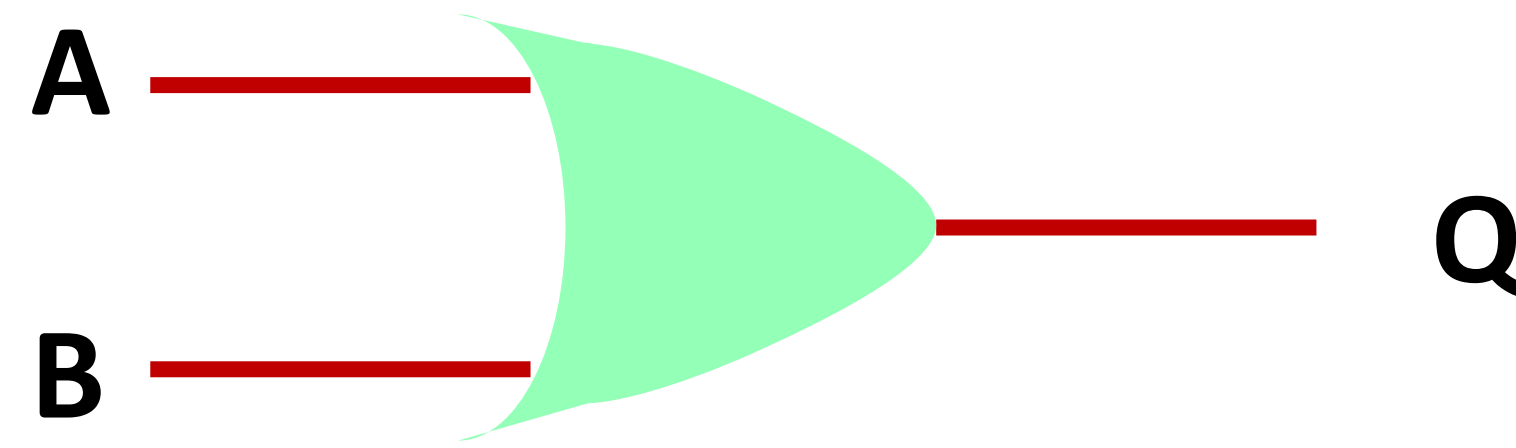
Bitwise Operations

# Logical OR



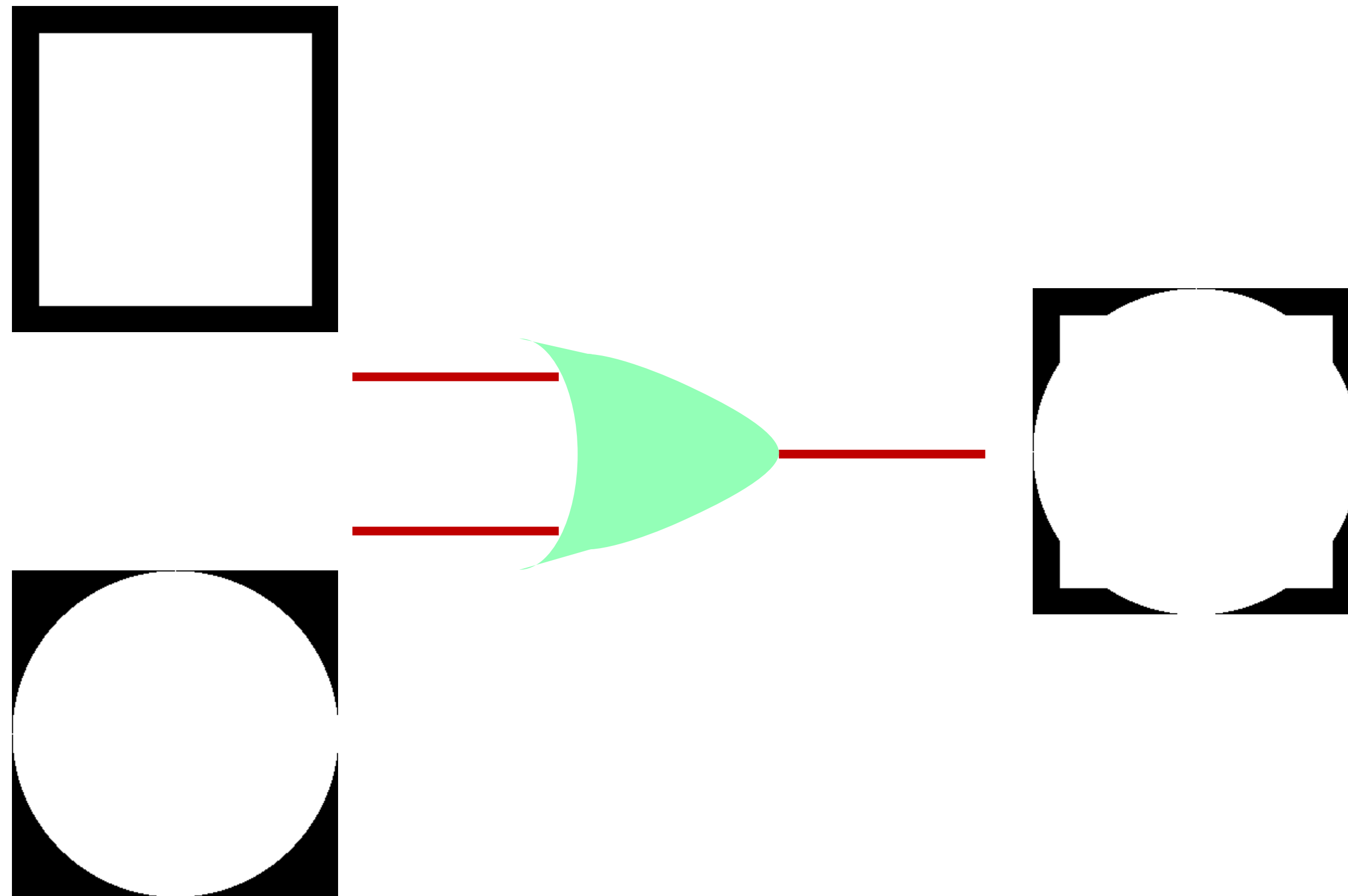
A	B	Q
0	0	0
0	1	1
1	0	1
1	1	1

# Logical OR to an Image



Union

# Bitwise OR

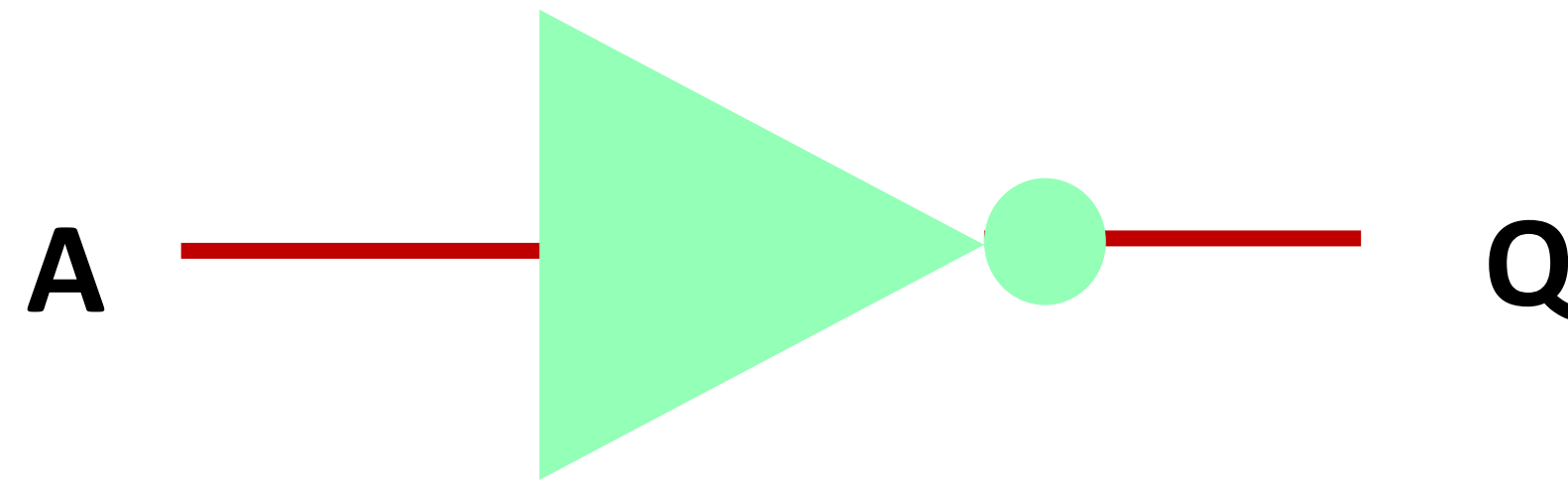




# Logical NOT

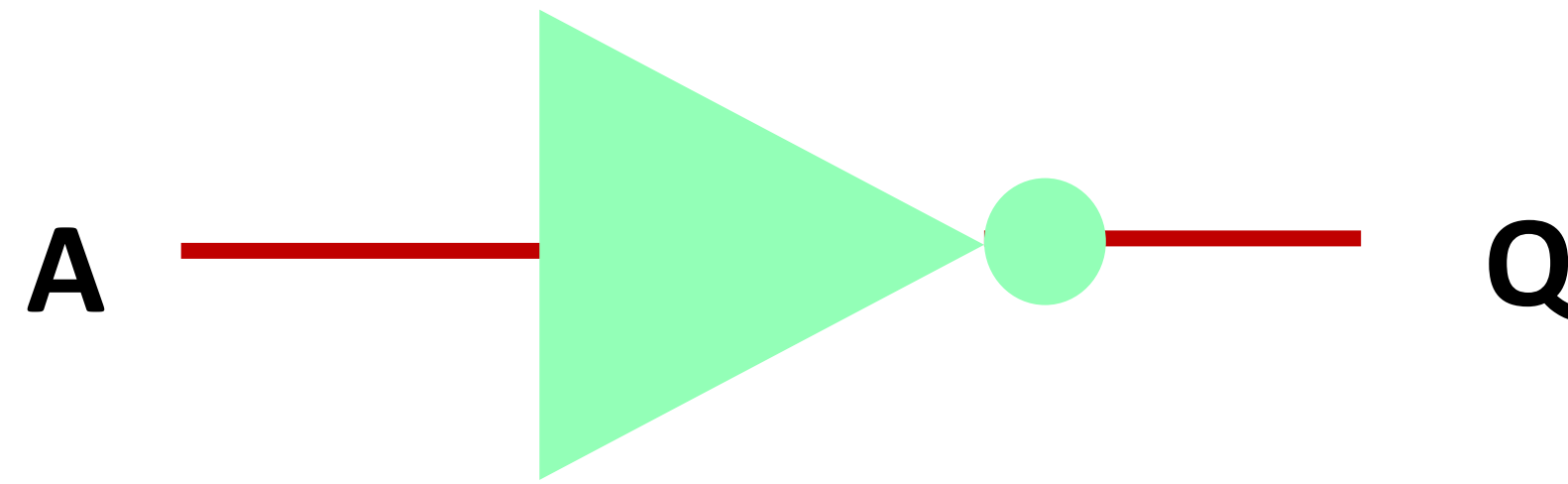
Bitwise Operations

# Logical NOT



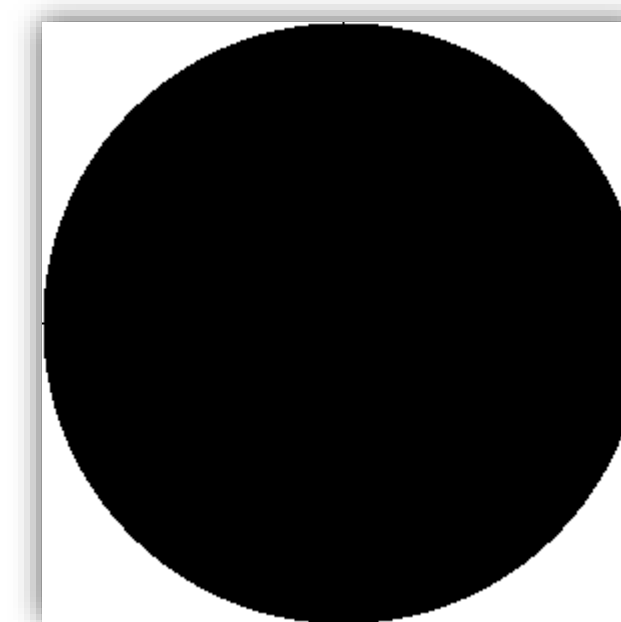
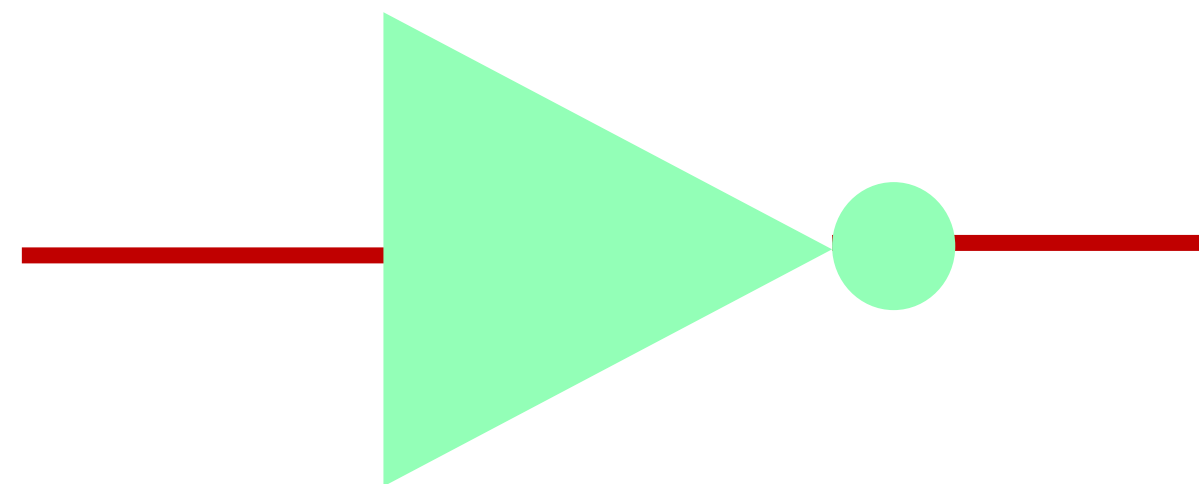
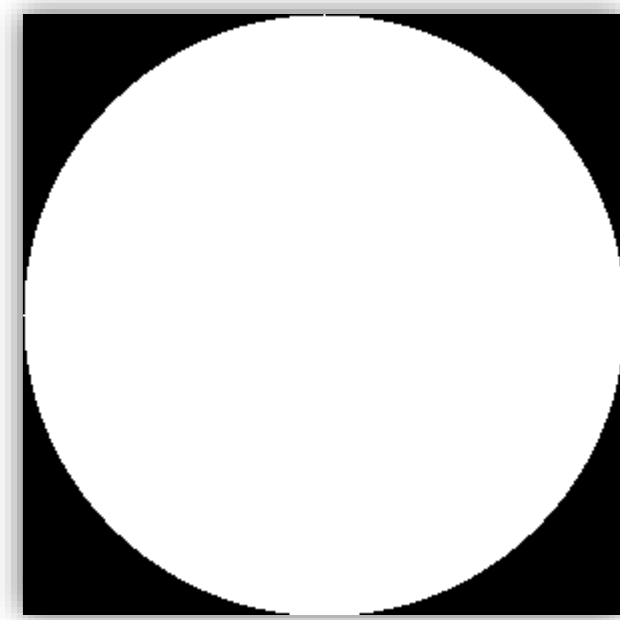
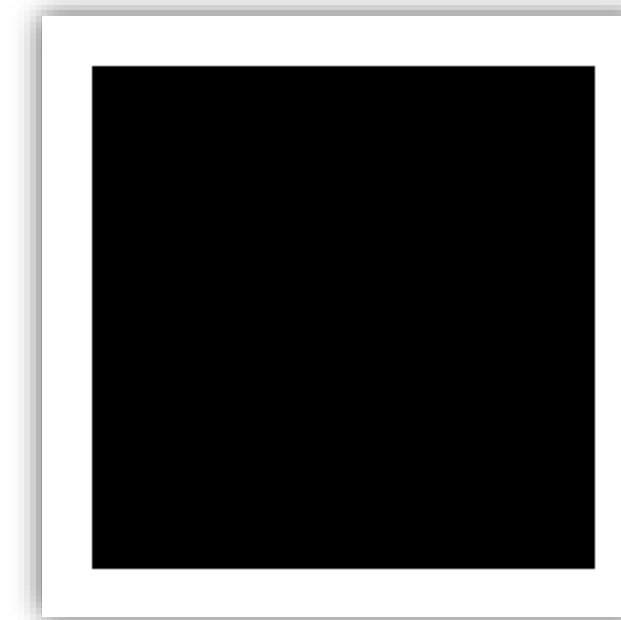
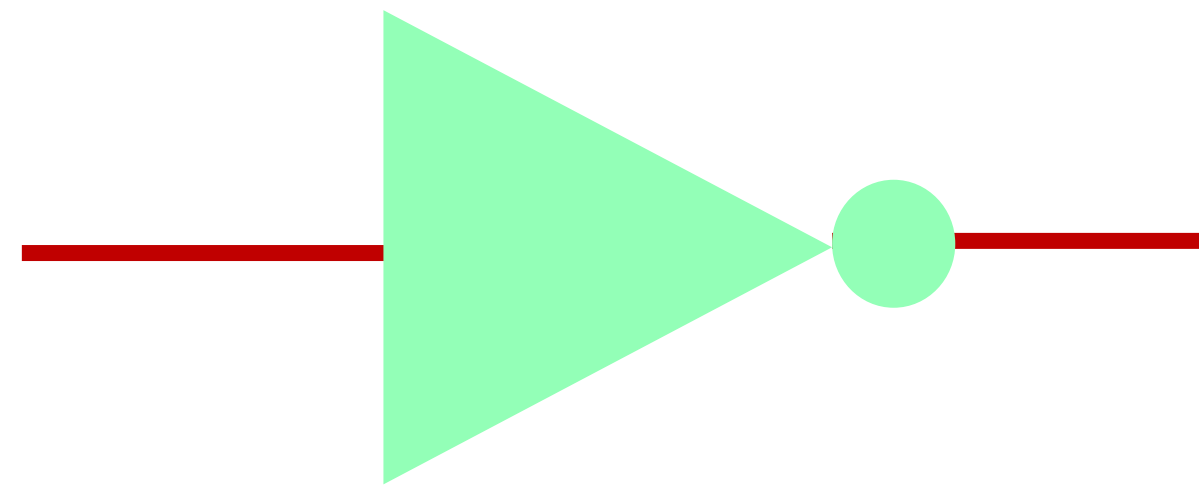
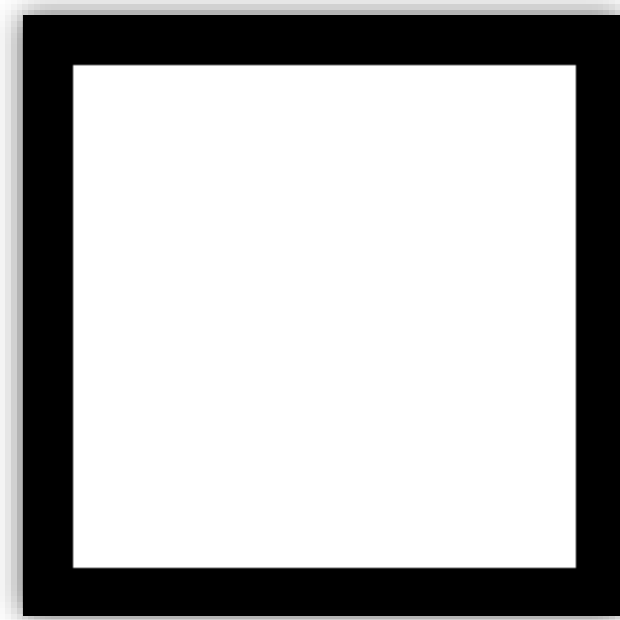
A	Q
0	1
1	0

# Logical NOT to an Image



Complement

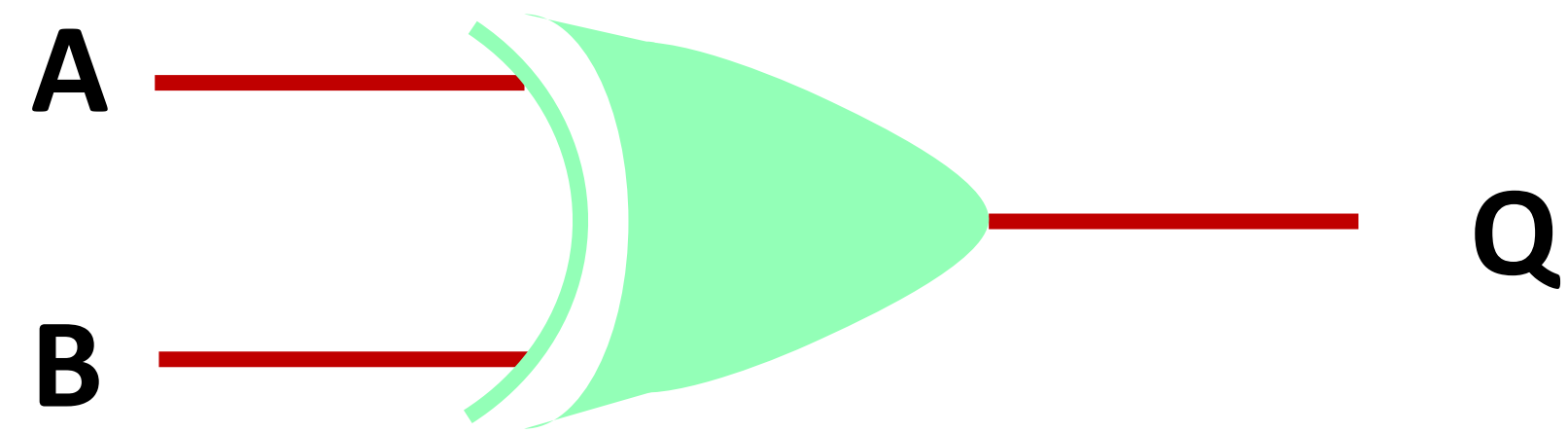
# Bitwise NOT



# Logical XOR

Bitwise Operations

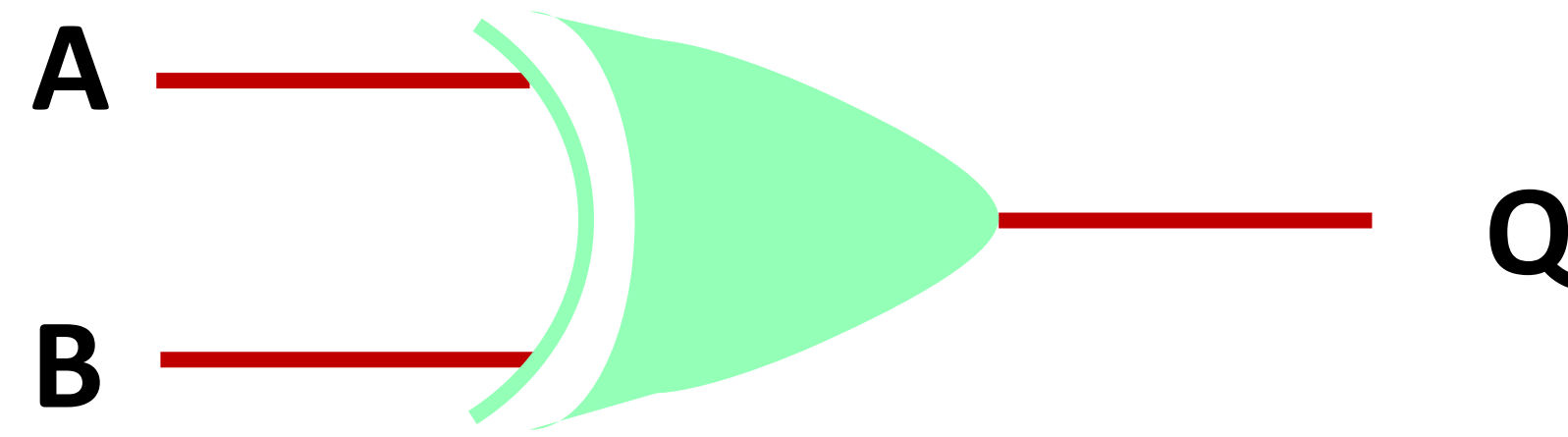
# Logical XOR



A	B	Q
0	0	0
0	1	1
1	0	1
1	1	0

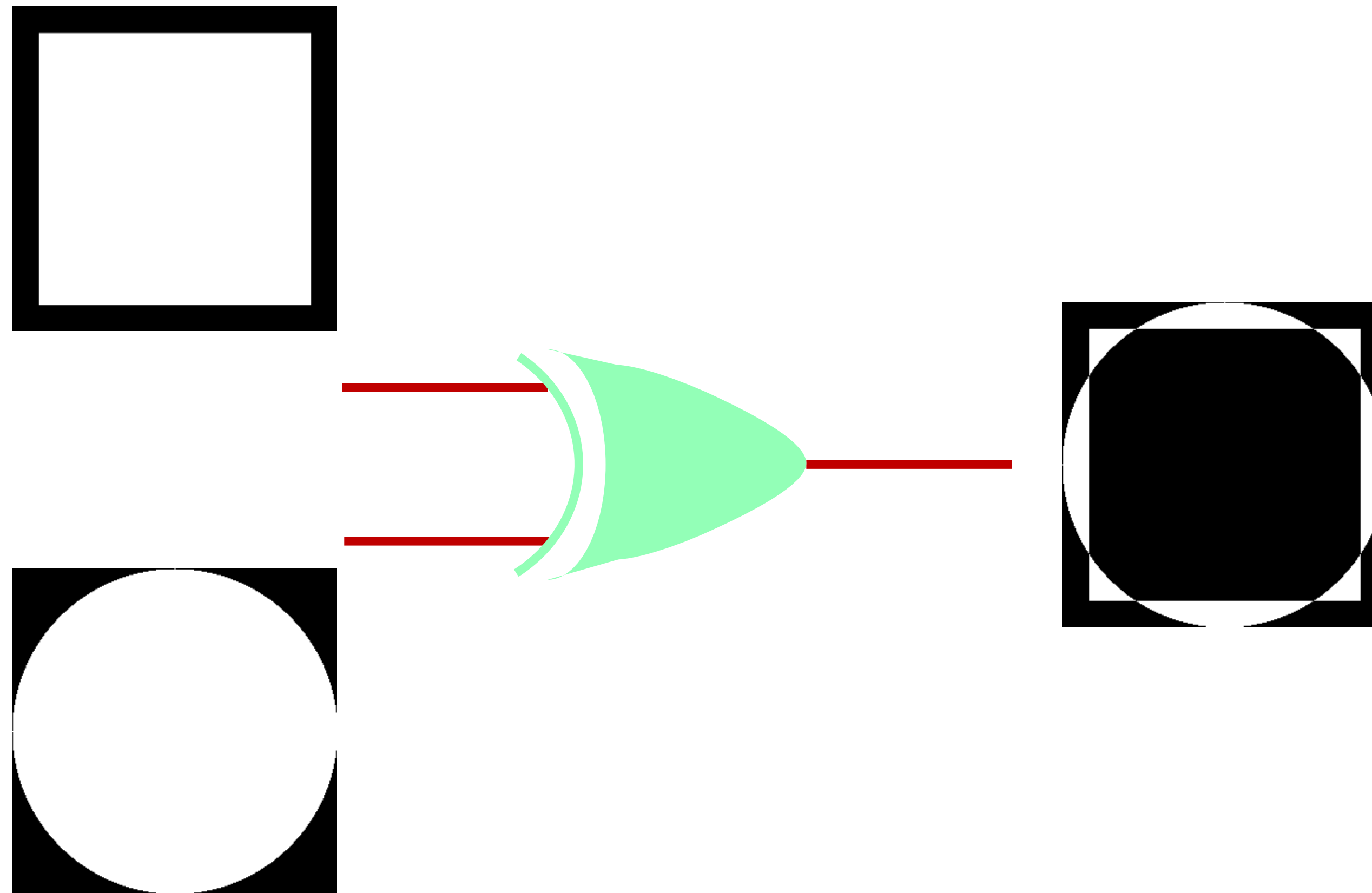


# Logical XOR to an Image



Exclusive Disjunction

# Bitwise XOR



# Next

Bitwise Operations in OpenCV Python