## Notes:

## • C++ Standard: 4.7 Integral conversions:

...

If the destination type is bool, see 4.12. If the source type is bool, the value false is converted to zero and the value true is converted to one.

...

## • C++ Standard: 4.12 Boolean conversions:

A prvalue of arithmetic, unscoped enumeration, pointer, or pointer to member type can be converted to a prvalue of type bool. A zero value, null pointer value, or null member pointer value is converted to false; any other value is converted to true. For direct-initialization (8.5), a prvalue of type std::nullptr\_t can be converted to a prvalue of type bool; the resulting value is false.

| true | false | bool(-2) | bool(-1) | bool(0) | bool(1) | bool(2) | bool(3) |
|------|-------|----------|----------|---------|---------|---------|---------|
| 1    | 0     |          |          |         |         |         |         |

| bool('\0') | bool('y') | bool('n') | bool("yes") | bool("no") | bool("hello") |
|------------|-----------|-----------|-------------|------------|---------------|
|            |           |           |             |            |               |

| bool(-5.7) | bool(0.0) | bool(5.7) | bool(42.8) |  |  |
|------------|-----------|-----------|------------|--|--|
|            |           |           |            |  |  |

| a | b | a == b | a != b | a && b | a    b |
|---|---|--------|--------|--------|--------|
| 0 | 0 |        |        |        |        |
| 0 | 1 |        |        |        |        |
| 1 | 0 |        |        |        |        |
| 1 | 1 |        |        |        |        |

| а | b | a == b && 'y' | a == b    'y' | a != b && 'y' | a != b    'y' |
|---|---|---------------|---------------|---------------|---------------|
| 0 | 0 |               |               |               |               |
| 0 | 1 |               |               |               |               |
| 1 | 0 |               |               |               |               |
| 1 | 1 |               |               |               |               |

| a | b | С | a==b && a: | ==c | a==b | a==c | a!=b | & & | a!=c | a!=b |  | a!=c |
|---|---|---|------------|-----|------|------|------|-----|------|------|--|------|
| 0 | 0 | 0 |            |     |      |      |      |     |      |      |  |      |
| 0 | 0 | 1 |            |     |      |      |      |     |      |      |  |      |
| 0 | 1 | 0 |            |     |      |      |      |     |      |      |  |      |
| 0 | 1 | 1 |            |     |      |      |      |     |      |      |  |      |
| 1 | 0 | 0 |            |     |      |      |      |     |      |      |  |      |
| 1 | 0 | 1 |            |     |      |      |      |     |      |      |  |      |
| 1 | 1 | 0 |            |     |      |      |      |     |      |      |  |      |
| 1 | 1 | 1 |            |     |      |      |      |     |      |      |  |      |