

Visual programming blocks – Logic

[Boolean algebra](#) is a mathematical system that has two values:

- **true**
- **false**

Boolean values (also called *conditions*) are used in these control blocks, which contain examples:

- [conditional blocks](#)
- [repeat blocks](#)

One of the many examples from those pages is:

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If the value of variable **x** is greater than 100, the condition is **true** and the text "What a big number!" is displayed. If the value of **x** is less than 100, the condition is **false** and "That's not very big." is displayed.

Boolean values can also be stored in variables and passed on to procedures in the same way as numbers, text or list values.

Blocks

If a block expects a Boolean value as an input, it usually interprets an absent input as **false**. An example is provided below. Non-Boolean values cannot be directly plugged in where Boolean values are expected, although it is possible (but inadvisable) to store a non-Boolean value in a variable, then plug it into the input. Neither of these practices are recommended, and their behaviour could change in future versions of Blockly.

Values

A single block, with a drop-down menu specifying either **true** or **false** can be used to get a boolean value:



Comparisons

There are six comparison operators. Each takes two inputs (usually numbers) and returns a true or false condition depending on how the inputs compare to each other.



The six operators are as follows: is equal to, does not equal, is less than, is less than or equal to, is greater than, is greater than or equal to.

Logical operations

The **and** block will return **true** only if both of its two inputs are also true.



The **or** block will return **true** if either of its two inputs are true.



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not

The **not** block converts its Boolean input into its opposite. For example, the result of:



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is false.

As mentioned above, if no input is provided, a value of **true** is assumed and the following block produces the value **false**:



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Leaving an input empty is not recommended, however.

Revision #3

vytvořené 2 roky nazpět uživatelem [Admin](#)

aktualizováno 2 roky nazpět uživatelem [Jiri Krulis](#)