**The Truth Terms**

In Ruby we have the following terms (characters and phrases) for determining if something is "true" or "false." Logic on a computer is all about seeing if some combination of these characters and some variables is true at that point in the program.

* && (and)
* || (or)
* ! (not)
* != (not equal)
* == (equal)
* >= (greater-than-equal)
* <= (less-than-equal)
* true
* false

You actually have run into these characters before but maybe not the terms. The terms (and, or, not) actually work the way you expect them to, just like in English.

**The Truth Tables :**We will now use these characters to make the truth tables you need to memorize.

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| --- | --- |
| **NOT** | **true?** |
| !false | True |
| !true | false |

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| --- | --- |
| **AND (&&)** | **true?** |
| true && false | false |
| true && true | true |
| false && true | false |
| false && false | false |

|  |  |
| --- | --- |
| **OR (||)** | **true?** |
| true || false | true |
| true || true | true |
| false || true | true |
| false || false | false |

|  |  |
| --- | --- |
| **NOT OR** | **true?** |
| not (true || false) | false |
| not (true || true) | false |
| not (false || true) | false |
| not (false || false) | true |

|  |  |
| --- | --- |
| **!=** | **true?** |
| 1 != 0 | true |
| 1 != 1 | false |
| 0 != 1 | True |
| 0 != 0 | false |

|  |  |
| --- | --- |
| **NOT AND** | **true?** |
| !(true && false) | true |
| !(true && true) | false |
| !(false && true) | true |
| !(false && false) | true |

|  |  |
| --- | --- |
| **==** | **true?** |
| 1 == 0 | false |
| 1 == 1 | true |
| 0 == 1 | false |
| 0 == 0 | true |