**Understanding Logic**

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| **Logical Operator(Logic Gate)** | **Description** |
| NOT | True only if variable x does not equal variable y. |
| AND | True only if variable x and y are equal. |
| OR | True if either x or y are true or both are true. |
| NAND | False only if x and y are true. |
| NOR | True only if x and y are false. |
| XOR | True only if only one variable is true. |
| XNOR | True only if both variables are true or both variables are false. |

Note: x and y refer to variable 1 and variable 2 in a comparison.