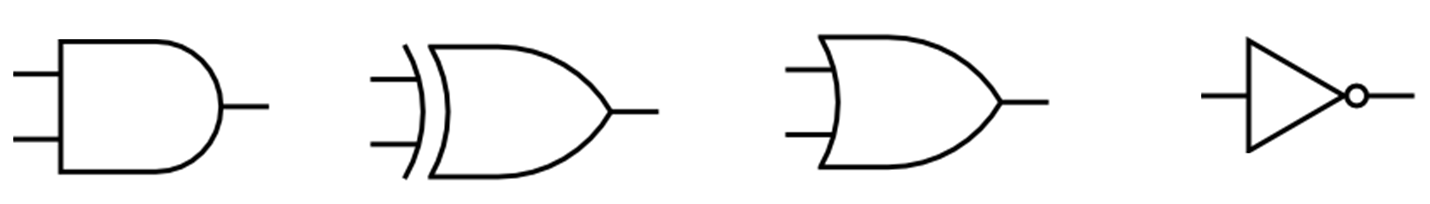
Logic Gates

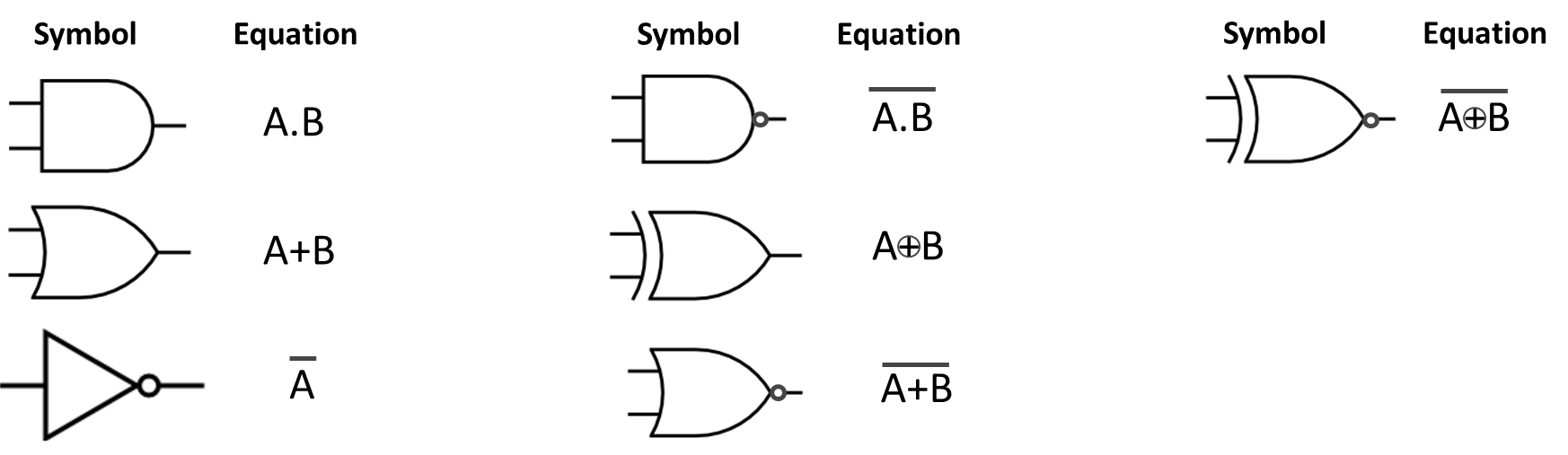
L.O.: To understand what logic gates represent and the output of each gate



In order: AND, XOR, OR, NOT

Each logic gate, bar the NOT gate, take two inputs and provide one output.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Logic Gate* | AND | OR | XOR | NOT |
| *Java Equivalent* | & | | | ^ | ! |



Logic gates can be expressed as Boolean logic:

|  |  |
| --- | --- |
| Symbol | Boolean expression |
| http://www.clker.com/cliparts/d/3/8/2/12065670311495995000nobody_Digital_logic_gates.svg.hi.png | !A |
| http://www.clker.com/cliparts/d/3/8/2/12065670311495995000nobody_Digital_logic_gates.svg.hi.png | A|B |
|  | !(A&B) |
|  | !(A^B) |
|  | !( (A&B) & (C|D) ) |
|  |  |

Some expressions are equivalent, for example, A.A = A, therefore A.A = A