**Scalable Data Infrastructures Day 4 Lab**

**MDV2330-L Using Logical Operators**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Fill in the truth tables below by manipulating the code in the *logic-tables.js* file attached to this lab on FSO. Keep in mind the following:

&& is the JavaScript equivalent of AND

|| is the JavaScript equivalent of OR

! is the JavaScript equivalent of NOT

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Table 1**

|  |  |  |
| --- | --- | --- |
| **P** | **Q** | **P && Q** |
| T | T | **true** |
| T | F | **False** |
| F | T | **False** |
| F | F | **false** |

**Table 2**

|  |  |  |
| --- | --- | --- |
| **P** | **Q** | **P || Q** |
| T | T | **true** |
| T | F | **True** |
| F | T | **True** |
| F | F | **False** |

**Table 3**

|  |  |  |  |
| --- | --- | --- | --- |
| **P** | **Q** | **R** | **(P && (Q || R)** |
| T | T | T | **true** |
| T | T | F | **true** |
| T | F | T | **true** |
| T | F | F | **false** |
| F | T | T | **false** |
| F | T | F | **false** |
| F | F | T | **false** |
| F | F | F | **false** |

**Table 4**

|  |  |  |  |
| --- | --- | --- | --- |
| **P** | **Q** | **R** | **(P && !Q) || R** |
| T | T | T | **true** |
| T | T | F | **false** |
| T | F | T | **true** |
| T | F | F | **true** |
| F | T | T | **true** |
| F | T | F | **false** |
| F | F | T | **True** |
| F | F | F | **false** |

**Table 5**

|  |  |  |  |
| --- | --- | --- | --- |
| **P** | **Q** | **R** | **P || (Q || R)** |
| T | T | T | **true** |
| T | T | F | **True** |
| T | F | T | **true** |
| T | F | F | **true** |
| F | T | T | **true** |
| F | T | F | **true** |
| F | F | T | **true** |
| F | F | F | **false** |