

## ALL POSSIBLE 2-INPUT TRUTH TABLES

Below, you can find all 16 possible 2-input truth tables. Analyze each on and give them a name.

<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr><th colspan="3"> </th></tr> <tr><th>A</th><th>B</th><th>Q</th></tr> </thead> <tbody> <tr><td>0</td><td>0</td><td>0</td></tr> <tr><td>0</td><td>1</td><td>0</td></tr> <tr><td>1</td><td>0</td><td>0</td></tr> <tr><td>1</td><td>1</td><td>0</td></tr> </tbody> </table>				A	B	Q	0	0	0	0	1	0	1	0	0	1	1	0	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr><th colspan="3"> </th></tr> <tr><th>A</th><th>B</th><th>Q</th></tr> </thead> <tbody> <tr><td>0</td><td>0</td><td>0</td></tr> <tr><td>0</td><td>1</td><td>0</td></tr> <tr><td>1</td><td>0</td><td>0</td></tr> <tr><td>1</td><td>1</td><td>1</td></tr> </tbody> </table>				A	B	Q	0	0	0	0	1	0	1	0	0	1	1	1	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr><th colspan="3"> </th></tr> <tr><th>A</th><th>B</th><th>Q</th></tr> </thead> <tbody> <tr><td>0</td><td>0</td><td>0</td></tr> <tr><td>0</td><td>1</td><td>0</td></tr> <tr><td>1</td><td>0</td><td>1</td></tr> <tr><td>1</td><td>1</td><td>0</td></tr> </tbody> </table>				A	B	Q	0	0	0	0	1	0	1	0	1	1	1	0	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr><th colspan="3"> </th></tr> <tr><th>A</th><th>B</th><th>Q</th></tr> </thead> <tbody> <tr><td>0</td><td>0</td><td>0</td></tr> <tr><td>0</td><td>1</td><td>0</td></tr> <tr><td>1</td><td>0</td><td>1</td></tr> <tr><td>1</td><td>1</td><td>1</td></tr> </tbody> </table>				A	B	Q	0	0	0	0	1	0	1	0	1	1	1	1
A	B	Q																																																																									
0	0	0																																																																									
0	1	0																																																																									
1	0	0																																																																									
1	1	0																																																																									
A	B	Q																																																																									
0	0	0																																																																									
0	1	0																																																																									
1	0	0																																																																									
1	1	1																																																																									
A	B	Q																																																																									
0	0	0																																																																									
0	1	0																																																																									
1	0	1																																																																									
1	1	0																																																																									
A	B	Q																																																																									
0	0	0																																																																									
0	1	0																																																																									
1	0	1																																																																									
1	1	1																																																																									
<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr><th colspan="3"> </th></tr> <tr><th>A</th><th>B</th><th>Q</th></tr> </thead> <tbody> <tr><td>0</td><td>0</td><td>0</td></tr> <tr><td>0</td><td>1</td><td>1</td></tr> <tr><td>1</td><td>0</td><td>0</td></tr> <tr><td>1</td><td>1</td><td>0</td></tr> </tbody> </table>				A	B	Q	0	0	0	0	1	1	1	0	0	1	1	0	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr><th colspan="3"> </th></tr> <tr><th>A</th><th>B</th><th>Q</th></tr> </thead> <tbody> <tr><td>0</td><td>0</td><td>0</td></tr> <tr><td>0</td><td>1</td><td>1</td></tr> <tr><td>1</td><td>0</td><td>0</td></tr> <tr><td>1</td><td>1</td><td>1</td></tr> </tbody> </table>				A	B	Q	0	0	0	0	1	1	1	0	0	1	1	1	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr><th colspan="3"> </th></tr> <tr><th>A</th><th>B</th><th>Q</th></tr> </thead> <tbody> <tr><td>0</td><td>0</td><td>0</td></tr> <tr><td>0</td><td>1</td><td>1</td></tr> <tr><td>1</td><td>0</td><td>1</td></tr> <tr><td>1</td><td>1</td><td>0</td></tr> </tbody> </table>				A	B	Q	0	0	0	0	1	1	1	0	1	1	1	0	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr><th colspan="3"> </th></tr> <tr><th>A</th><th>B</th><th>Q</th></tr> </thead> <tbody> <tr><td>0</td><td>0</td><td>0</td></tr> <tr><td>0</td><td>1</td><td>1</td></tr> <tr><td>1</td><td>0</td><td>1</td></tr> <tr><td>1</td><td>1</td><td>1</td></tr> </tbody> </table>				A	B	Q	0	0	0	0	1	1	1	0	1	1	1	1
A	B	Q																																																																									
0	0	0																																																																									
0	1	1																																																																									
1	0	0																																																																									
1	1	0																																																																									
A	B	Q																																																																									
0	0	0																																																																									
0	1	1																																																																									
1	0	0																																																																									
1	1	1																																																																									
A	B	Q																																																																									
0	0	0																																																																									
0	1	1																																																																									
1	0	1																																																																									
1	1	0																																																																									
A	B	Q																																																																									
0	0	0																																																																									
0	1	1																																																																									
1	0	1																																																																									
1	1	1																																																																									
<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr><th colspan="3"> </th></tr> <tr><th>A</th><th>B</th><th>Q</th></tr> </thead> <tbody> <tr><td>0</td><td>0</td><td>1</td></tr> <tr><td>0</td><td>1</td><td>0</td></tr> <tr><td>1</td><td>0</td><td>0</td></tr> <tr><td>1</td><td>1</td><td>0</td></tr> </tbody> </table>				A	B	Q	0	0	1	0	1	0	1	0	0	1	1	0	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr><th colspan="3"> </th></tr> <tr><th>A</th><th>B</th><th>Q</th></tr> </thead> <tbody> <tr><td>0</td><td>0</td><td>1</td></tr> <tr><td>0</td><td>1</td><td>0</td></tr> <tr><td>1</td><td>0</td><td>0</td></tr> <tr><td>1</td><td>1</td><td>1</td></tr> </tbody> </table>				A	B	Q	0	0	1	0	1	0	1	0	0	1	1	1	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr><th colspan="3"> </th></tr> <tr><th>A</th><th>B</th><th>Q</th></tr> </thead> <tbody> <tr><td>0</td><td>0</td><td>1</td></tr> <tr><td>0</td><td>1</td><td>0</td></tr> <tr><td>1</td><td>0</td><td>1</td></tr> <tr><td>1</td><td>1</td><td>0</td></tr> </tbody> </table>				A	B	Q	0	0	1	0	1	0	1	0	1	1	1	0	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr><th colspan="3"> </th></tr> <tr><th>A</th><th>B</th><th>Q</th></tr> </thead> <tbody> <tr><td>0</td><td>0</td><td>1</td></tr> <tr><td>0</td><td>1</td><td>0</td></tr> <tr><td>1</td><td>0</td><td>1</td></tr> <tr><td>1</td><td>1</td><td>1</td></tr> </tbody> </table>				A	B	Q	0	0	1	0	1	0	1	0	1	1	1	1
A	B	Q																																																																									
0	0	1																																																																									
0	1	0																																																																									
1	0	0																																																																									
1	1	0																																																																									
A	B	Q																																																																									
0	0	1																																																																									
0	1	0																																																																									
1	0	0																																																																									
1	1	1																																																																									
A	B	Q																																																																									
0	0	1																																																																									
0	1	0																																																																									
1	0	1																																																																									
1	1	0																																																																									
A	B	Q																																																																									
0	0	1																																																																									
0	1	0																																																																									
1	0	1																																																																									
1	1	1																																																																									
<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr><th colspan="3"> </th></tr> <tr><th>A</th><th>B</th><th>Q</th></tr> </thead> <tbody> <tr><td>0</td><td>0</td><td>1</td></tr> <tr><td>0</td><td>1</td><td>1</td></tr> <tr><td>1</td><td>0</td><td>0</td></tr> <tr><td>1</td><td>1</td><td>0</td></tr> </tbody> </table>				A	B	Q	0	0	1	0	1	1	1	0	0	1	1	0	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr><th colspan="3"> </th></tr> <tr><th>A</th><th>B</th><th>Q</th></tr> </thead> <tbody> <tr><td>0</td><td>0</td><td>1</td></tr> <tr><td>0</td><td>1</td><td>1</td></tr> <tr><td>1</td><td>0</td><td>0</td></tr> <tr><td>1</td><td>1</td><td>1</td></tr> </tbody> </table>				A	B	Q	0	0	1	0	1	1	1	0	0	1	1	1	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr><th colspan="3"> </th></tr> <tr><th>A</th><th>B</th><th>Q</th></tr> </thead> <tbody> <tr><td>0</td><td>0</td><td>1</td></tr> <tr><td>0</td><td>1</td><td>1</td></tr> <tr><td>1</td><td>0</td><td>1</td></tr> <tr><td>1</td><td>1</td><td>0</td></tr> </tbody> </table>				A	B	Q	0	0	1	0	1	1	1	0	1	1	1	0	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr><th colspan="3"> </th></tr> <tr><th>A</th><th>B</th><th>Q</th></tr> </thead> <tbody> <tr><td>0</td><td>0</td><td>1</td></tr> <tr><td>0</td><td>1</td><td>1</td></tr> <tr><td>1</td><td>0</td><td>1</td></tr> <tr><td>1</td><td>1</td><td>1</td></tr> </tbody> </table>				A	B	Q	0	0	1	0	1	1	1	0	1	1	1	1
A	B	Q																																																																									
0	0	1																																																																									
0	1	1																																																																									
1	0	0																																																																									
1	1	0																																																																									
A	B	Q																																																																									
0	0	1																																																																									
0	1	1																																																																									
1	0	0																																																																									
1	1	1																																																																									
A	B	Q																																																																									
0	0	1																																																																									
0	1	1																																																																									
1	0	1																																																																									
1	1	0																																																																									
A	B	Q																																																																									
0	0	1																																																																									
0	1	1																																																																									
1	0	1																																																																									
1	1	1																																																																									

AND – NAND – OR – NOR – XOR – XNOR – A – B – NOT(A) – NOT(B) – 0 – 1  
A AND NOT(B) – B AND NOT(A) – A OR NOT(B) – B OR NOT(A)