

## A Logische Funktionen im Überblick

Funktion	Wertetabelle	Programmierung in Java															
<div>NICHT (NOT)</div> <div><math>Y = \overline{A}</math></div>	<table><tr><td>A</td><td>Y</td></tr><tr><td>0</td><td>1</td></tr><tr><td>1</td><td>0</td></tr></table>	A	Y	0	1	1	0	<div><math>!Bedingung</math></div>									
A	Y																
0	1																
1	0																
<div>UND (AND)</div> <div><math>Y = A \wedge B</math></div>	<table><tr><td>A</td><td>B</td><td>Y</td></tr><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></table>	A	B	Y	0	0	0	0	1	0	1	0	0	1	1	1	<div><math>Bedingung1 \ \&amp;\&amp; \ Bedingung2</math></div>
A	B	Y															
0	0	0															
0	1	0															
1	0	0															
1	1	1															
<div>ODER (OR)</div> <div><math>Y = A \vee B</math></div>	<table><tr><td>A</td><td>B</td><td>Y</td></tr><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></table>	A	B	Y	0	0	0	0	1	1	1	0	1	1	1	1	<div><math>Bedingung1 \    \ Bedingung2</math></div>
A	B	Y															
0	0	0															
0	1	1															
1	0	1															
1	1	1															
<div>NICHT UND (NAND)</div> <div><math>Y = \overline{A \wedge B}</math></div>	<table><tr><td>A</td><td>B</td><td>Y</td></tr><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></table>	A	B	Y	0	0	1	0	1	1	1	0	1	1	1	0	<div><math>!(Bedingung1 \ \&amp;\&amp; \ Bedingung2)</math></div>
A	B	Y															
0	0	1															
0	1	1															
1	0	1															
1	1	0															
<div>NICHT ODER (NOR)</div> <div><math>Y = \overline{A \vee B}</math></div>	<table><tr><td>A</td><td>B</td><td>Y</td></tr><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></table>	A	B	Y	0	0	1	0	1	0	1	0	0	1	1	0	<div><math>!(Bedingung1 \    \ Bedingung2)</math></div>
A	B	Y															
0	0	1															
0	1	0															
1	0	0															
1	1	0															
<div>EXCLUSIV-ODER (XOR)</div> <div><math>Y = A \oplus B</math> bzw. <math>Y = \overline{A} \wedge B \vee A \wedge \overline{B}</math></div>	<table><tr><td>A</td><td>B</td><td>Y</td></tr><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></table>	A	B	Y	0	0	0	0	1	1	1	0	1	1	1	0	<div><math>!Bedingung1 \ \&amp;\&amp; \ Bedingung2 \    \ Bedingung1 \ \&amp;\&amp; \ !Bedingung2</math></div>
A	B	Y															
0	0	0															
0	1	1															
1	0	1															
1	1	0															