

CS Fundamentals - Boolean.

Exercises

Truth Table.

1. AND

P	Q	$P \wedge Q$
T	T	T
T	F	F
F	T	F
F	F	F

 ✓

2. OR

P	Q	$P \vee Q$
T	T	T
T	F	T
F	T	T
F	F	F

 ✓

3. XOR

P	Q	$P \oplus Q$
T	T	F
T	F	T
F	T	T
F	F	F

 ✓

4. \Rightarrow

P	Q	$P \Rightarrow Q$
T	T	T
T	F	F
F	T	T
F	F	T

 ✓

5. \Leftrightarrow

P	Q	$P \Leftrightarrow Q$
T	T	T
F	T	F
T	F	F
F	F	T

 ✓

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Bitwise operators exercise

$$\begin{array}{r} 1. \quad 01111000 \\ \text{OR } 00111010 \\ \hline 01111010 \end{array} \quad \checkmark$$

$$\begin{array}{r} 2. \quad 00111010 \\ \text{OR } 00110010 \\ \hline 00111010 \end{array} \quad \checkmark$$

$$\begin{array}{r} 3. \quad 00110010 \\ \text{XOR } 01010100 \\ \hline 01100110 \end{array} \quad \checkmark$$

$$\begin{array}{r} 4. \quad 01010100 \\ \text{AND } 01101010 \\ \hline 01000000 \end{array} \quad \checkmark$$

$$\begin{array}{r} 5. \quad 01101010 \\ \text{OR } 01100110 \\ \hline 01101110 \end{array} \quad \checkmark$$

$$\begin{array}{r} 6. \quad 01100110 \\ \text{OR } 00111011 \\ \hline 01111111 \end{array} \quad \checkmark$$

$$\begin{array}{r} 7. \quad 00111011 \\ \text{AND } 00100001 \\ \hline 00100001 \end{array} \quad \checkmark$$

$$\begin{array}{r} 8. \quad 00100001 \\ \text{OR } 01111111 \\ \hline 01111111 \end{array} \quad \checkmark$$

$$\begin{array}{r} 9. \quad 01111111 \\ \text{AND } 01000001 \\ \hline 01000001 \end{array} \quad \checkmark$$

$$\begin{array}{r} 10. \quad 01000001 \\ \text{XOR } 00011101 \\ \hline 01011100 \end{array} \quad \checkmark$$

$$\begin{array}{r} 11. \quad 00011101 \\ \text{OR } 01101101 \\ \hline 01111101 \end{array} \quad \checkmark$$

$$\begin{array}{r} 12. \quad 01101101 \\ \text{XOR } 00000010 \\ \hline 01101111 \end{array} \quad \checkmark$$

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$$\begin{array}{r} 13. \quad 00000010 \\ \text{XOR } 00110110 \\ \hline 00110100 \end{array} \checkmark$$

$$\begin{array}{r} 14. \quad 00110110 \\ \text{AND } 00101010 \\ \hline 00100010 \end{array} \checkmark$$

$$\begin{array}{r} 15. \quad 00101010 \\ \text{XOR } 01011010 \\ \hline 01110000 \end{array} \checkmark$$

$$\begin{array}{r} 16. \quad 01011010 \\ \text{AND } 01001000 \\ \hline 01001000 \end{array} \checkmark$$