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CS 260

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Assignment

Show that XY + XY = XY + XY

Truth Table for XY + XY

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| X | Y | X | Y | XY | XY | XY + XY | XY + XY |
| 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 |
| 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 |
| 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 |
| 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |

Truth table for XY + XY

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| X | Y | X | Y | XY | XY | XY + XY |
| 0 | 0 | 1 | 1 | 0 | 1 | 1 |
| 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 1 | 1 | 0 | 0 | 1 | 0 | 1 |

Both XY + XY and XY + XY evaluate to the same Truth table.

They are equivalent as required.

The algebraic Normal form for Both functions is: X + Y