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**DEPARTMENT: COMPUTER SCIENCE 200level**

**Truth table showing A\*(B+C) = A\*B + A\*C**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **(i)** | **(ii)** | **(iii)** | **(iv)** | **(v)** | **(vi)** | **(vii)** | **(viii)** |
| **A** | **B** | **C** | **B+C**  | **A\*(B+C)** | **A\*B** | **A\*C** | **A\*B + A\*C** |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 |
| 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

Comparing column (v) and column (viii)**,** we can see that:

 **A\*(B+C) = A\*B + A\*C**