**AKUKWE MICHAEL LOTACHUKWU**

**18/SCI01/014**

**CSC 202**

**Assignment.**

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

**Answers.**

1. A\*(B+C) **X**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| A | B | C | (B+C) | **A\*(B+C)** |
| 0 | 0 | 0 | 0 | **0** |
| 0 | 0 | 1 | 1 | **0** |
| 0 | 1 | 0 | 1 | **0** |
| 0 | 1 | 1 | 1 | **0** |
| 1 | 0 | 0 | 0 | **0** |
| 1 | 0 | 1 | 1 | **1** |
| 1 | 1 | 0 | 1 | **1** |
| 1 | 1 | 1 | 1 | **1** |

1. A\*B + A\*C XX

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| A | B | C | A\*B | A\*C | **A\*B + A\*C** |
| 0 | 0 | 0 |  | 0 | **0** |
| 0 | 0 | 1 |  | 1 | **0** |
| 0 | 1 | 0 |  | 1 | **0** |
| 0 | 1 | 1 |  | 1 | **0** |
| 1 | 0 | 0 |  | 0 | **0** |
| 1 | 0 | 1 |  | 1 | **1** |
| 1 | 1 | 0 |  | 1 | **1** |
| 1 | 1 | 1 |  | 1 | **1** |

* From the above truth tables, Column **X and Column XX are equal.**
* **So,** **A\*(B+C) = A\*B + A\*C** is shown.