

# DeMorgan's Theorem

$$\overline{A \cdot B} = \overline{A} + \overline{B}$$

$$\overline{A + B} = \overline{A} \cdot \overline{B}$$

A	B	$\overline{A \cdot B}$	$\overline{A} + \overline{B}$	$\overline{A + B}$	$\overline{A} \cdot \overline{B}$
0	0	1	1	1	1
0	1	0	0	1	1
1	0	0	0	1	1
1	1	0	0	0	0

# Simplification using Boolean Algebra

- Example :-

- $AB + A(B+C) + B(B+C)$

- Sol:

- $AB + AB + AC + BB + BC$

- $AB + AC + B + BC$

- $AB + AC + B$

- $B + AC$

- ..... HOME WORK .....

- Example :-

- $A \overline{B} C + A \overline{B} \overline{C} + A B \overline{C} + A B C + A \overline{B} C$

- $A \overline{B} C (BD + CDE) + A C$