| A | B | F |
|---|---|---|
| 0 | 00 | 0 |
| 1 | 01 | 0 |
| 2 | 10 | 0 |
| 3 | 11 | 1 |

Express the function F as a fundamental Sum-of-products and as a fundamental product-of-sums. (This is the AND function)

Solving the truth table, there is a minterm at $A = B = 1$

$$\therefore \quad F = AB \ = m_3 \quad \Rightarrow \quad F(A,B) = \Sigma(3)$$

If the minterm evaluates to '1' then the function evaluates to '1'. Because we know that minterms and maxterms are mutually exclusive, we can deduce that $F(A,B) = \Pi(0,1,2)$

Alternatively, finding the minterms that are at locations where there is a '0' in the truth table will give an expression for NOT F.

$$\overline{F} = \overline{A}\overline{B} + \overline{A}B + A\overline{B} \quad \text{to obtain F, invert both sides}$$
$$\text{as} \quad \overline{\overline{F}} = F$$

$$F = \overline{\overline{A}\overline{B} + \overline{A}B + A\overline{B}} \quad \text{apply De Morgan's theorem}$$

$$F = \overline{\overline{A}\overline{B}} \cdot \overline{\overline{A}B} \cdot \overline{A\overline{B}} \quad \text{apply De Morgan again}$$

$$F = (A+B) \cdot (A+\overline{B})(\overline{A}+B) \ = M_0 M_1 M_2$$
$$F(A,B) = \Pi(0,1,2)$$

OR  read the maxterms directly from the truth table. Find the '0's in the output and take the variable if there is a '0' for the input and the complement of the variable if there is a '1' for the input.