# Truth Table for Theoretical Full Adder
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As stated in the lab 0 document, the Boolean equations for Lab 0 are:

$$Sum = A \oplus B \oplus C_{in}$$
$$C_{out} = A \cdot B + A \cdot C_{in} + B \cdot C_{in}$$

We will introduce the topics on how to build the truth table, but you can use the following truth table. Your simulation and implementation should match this output. It is also shown in Figure 5.3 in our textbook, but also shown in Table 1.

| Inputs | | | Outputs | |
|---|---|---|---|---|
| **A** | B | Cin | Sum | Cout |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 1 | 0 |
| 0 | 1 | 0 | 1 | 0 |
| 0 | 1 | 1 | 0 | 1 |
| 1 | 0 | 0 | 1 | 0 |
| 1 | 0 | 1 | 0 | 1 |
| 1 | 1 | 0 | 0 | 1 |
| 1 | 1 | 1 | 1 | 1 |

*Table 1: Full Adder Truth Table*