Information is stored on the computer in binary form. A binary **bit** can exist in one of two possible states. In **positive logic**, the presence of a voltage is called the '1', true, asserted, or high state. The absence of a voltage is called the '0', false, not asserted, or low state. Figure 4.1 shows the output of a typical complementary metal oxide semiconductor (CMOS) circuit. The left side shows the condition with a true bit, and the right side shows a false. The output of each digital circuit consists of a p-type transistor "on top of" an n-type transistor. In digital circuits, each transistor is essentially on or off. If the transistor is **on**, it is equivalent to a short circuit between its two output pins. Conversely, if the transistor is **off**, it is equivalent to an open circuit between its outputs pins.

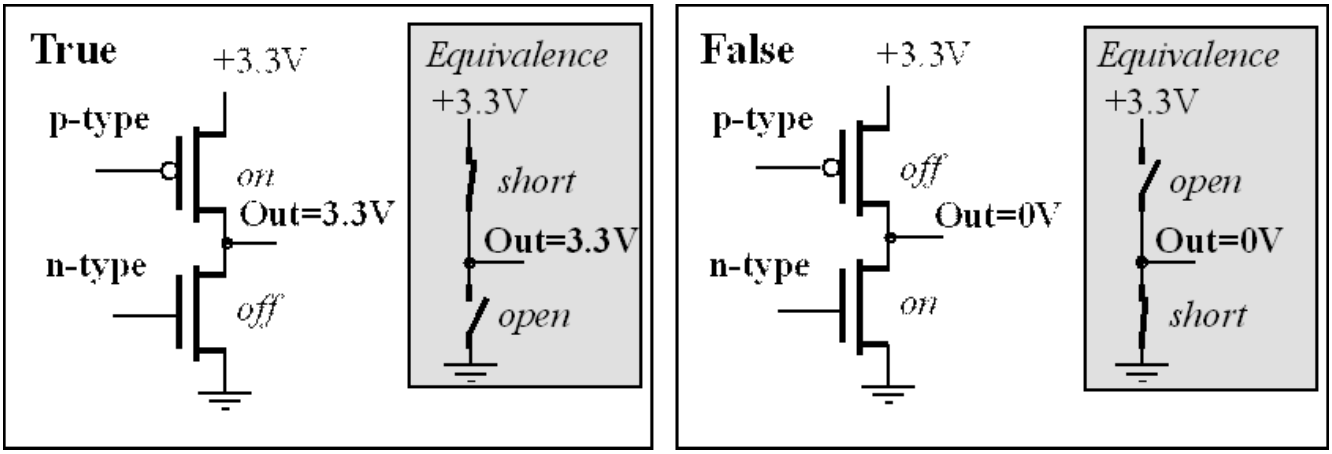

Figure 4.1. A binary bit is true if a voltage is present and false if the voltage is 0.

CHECKPOINT 4.1

What does binary mean?

Hide Answer

Binary means it has two states.