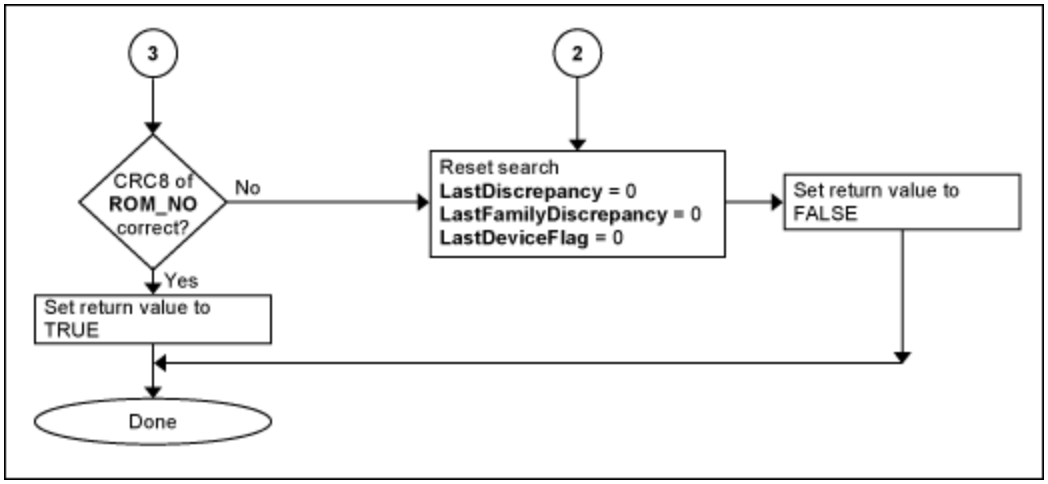

Figure 2. Search flow part II.

There are two basic types of operations that can be performed by using the search algorithm by manipulating the LastDiscrepancy, LastFamilyDiscrepancy, LastDeviceFlag, and ROM_NO register values (see **Table 4**). These operations concern basic discovery of the ROM numbers of 1-Wire devices.

First

The 'FIRST' operation is to search on the 1-Wire for the first device. This is performed by setting LastDiscrepancy, LastFamilyDiscrepancy, and LastDeviceFlag to zero and then doing the search. The resulting ROM number can then be read from the ROM_NO register. If no devices are present on the 1-Wire the reset sequence does not detect a presence and the search is aborted.

Next

The 'NEXT' operation is to search on the 1-Wire for the next device. This search is usually performed after a 'FIRST' operation or another 'NEXT' operation. It is performed by leaving the state unchanged from the previous search and performing another search. The resulting ROM number can then be read from the ROM_NO register. If the previous search was the last device on the 1-Wire then the result is FALSE and the condition is set to execute a 'FIRST' with the next call of the search algorithm.

Figure 3 (a, b, c) goes through a simple search example with three devices. For illustration, this example assumes devices with a 2-bit ROM number only.