ceiver loads the data. There can be as few as 2 and as many as 73 data bytes in a row. An assertion to check the count of data bytes is shown below:

```
1  property ckDataByteCountConsec;
2    @(negedge ck) dr |=> dr [*1:72] ##1 ~dr;
3  endproperty
```

This sequence is started by the dr becoming TRUE as happens at clock tick B. After that there will be as few as 1 and as many as 72 more consecutive repetitions of dr (i.e., at successive clock ticks) before ~dr occurs. If you'd rather see the specification numbers (2 and 73) in the property, it could be written:

```
1  property ckDataByteCountConsecAlt;
2    @(negedge ck) dr |-> dr [*2:73] ##1 ~dr;
3  endproperty
```

Here, the count of consecutive repetitions starts in the same state as when dr is first seen because of the |-> implication operator.

Let's change this protocol specification to that shown in Figure 9.8. This protocol is similar to above except that the data bytes don't need to be sent consecutively. The dr signal indicates that there is a byte on the data lines. The sender tells the receiver the sequence of data bytes is done when the done signal is asserted. As shown here, it is asserted in the state following the last dr, when there is no data on the line. This corresponds to clock tick F in Figure 9.8. Again, there can be as few as 2 and as many as 73 non-consecutive data bytes sent between the first dr and the done signal.

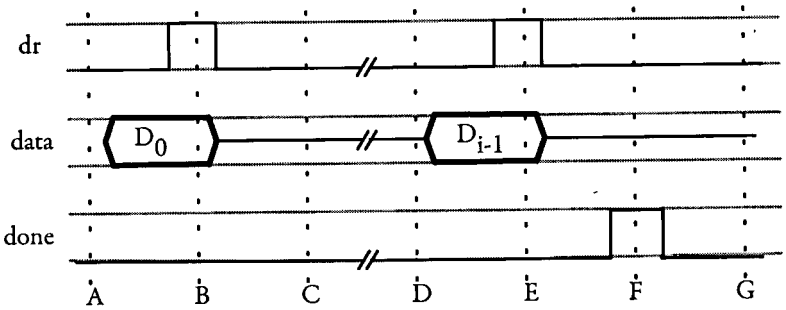

Figure 9.8 — Timing Diagram Showing the "go to" Relationship of the Final dr and done

A property to check non-consecutive iteration such as this is:

```
1  property ckDataByteCountNonConsec;
2    @(negedge ck) dr |-> dr [->2:73] ##1 done;
3  endproperty
```

The difference here is the use of the non-consecutive *goto* range repetition operator [->2:73]. It specifies two things. First, dr can be asserted between 2 and 73 times but they don't have to be at consecutive clock ticks. Thus there could be many clock ticks in between the dr signals. Second, it specifies that the done signal ending the sequence must be one clock tick after the final dr as shown in Figure 9.8.

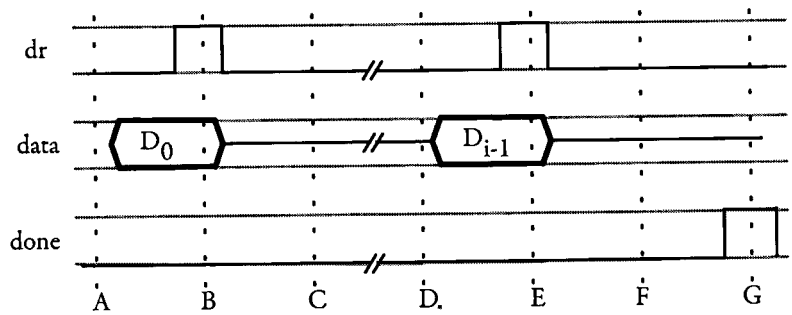

Figure 9.9 — Timing Diagram Showing a Match for the Non-Consecutive (=) Repetition Operator