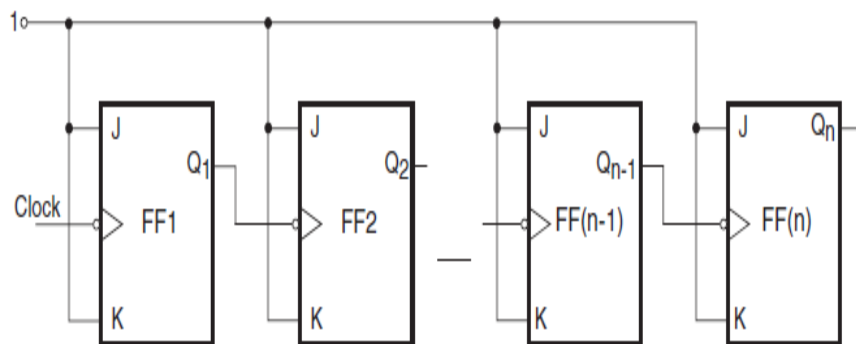# Ripple (Asynchronous) Counter

- A *ripple counter is a cascaded arrangement of flip-flops where the output of one flip-flop drives the* clock input of the following flip-flop.

- In a ripple counter, also called an *asynchronous counter or a serial counter*

- The clock input is applied only to the first flip-flop, also called the input flip-flop, in the cascaded arrangement.

- The output of the first flip-flop acts as the clock input to the second flip-flop, the output of the second flip-flop feeds the clock input of the third flip-flop and so on.

- In general, in an arrangement of n flip-flops, the clock input to the nth flip-flop comes from the output of the (n−1)th flip-flop for n>1.

Generalized block schematic of *n*-bit binary ripple counter.