What is a Counter?

A counter is a device which can count any particular event on the basis of how many times the particular event(s) is occurred. In a digital logic system or computers, this counter can count and store the number of time any particular event or process have occurred, depending on a clock signal. Most common type of counter is sequential digital logic circuit with a single clock input and multiple outputs. The outputs represent binary or binary coded decimal numbers. Each clock pulse either increase the number or decrease the number.

What is Asynchronous?

Asynchronous stands for the absence of synchronization. Something that is not existing or occurring at the same time. In computing or telecommunication stream, Asynchronous stands for controlling the operation timing by sending a pulse only when the previous operation is completed rather than sending it in regular intervals.

Asynchronous Counter

Now we understood that what is *counter* and what is the meaning of the word *Asynchronous*. An Asynchronous counter can count using **Asynchronous clock input**. Counters can be easily made using flip-flops. As the count depends on the clock signal, in case of an Asynchronous counter, changing state bits are provided as the clock signal to the subsequent flip-flops. Those Flip-flops are serially connected together, and the clock pulse ripples through the counter. Due to the ripple clock pulse, it's often called a ripple counter. An Asynchronous counter can count **2^n - 1** possible counting states.