

**Digital Logic Lab Assignment 20 & 21**

* To construct a 2-bit Synchronous counter
* To construct a 4-bit Synchronous counter
* To construct a BCD Synchronous counter

**Submitted By**

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**OBJECTIVE :**

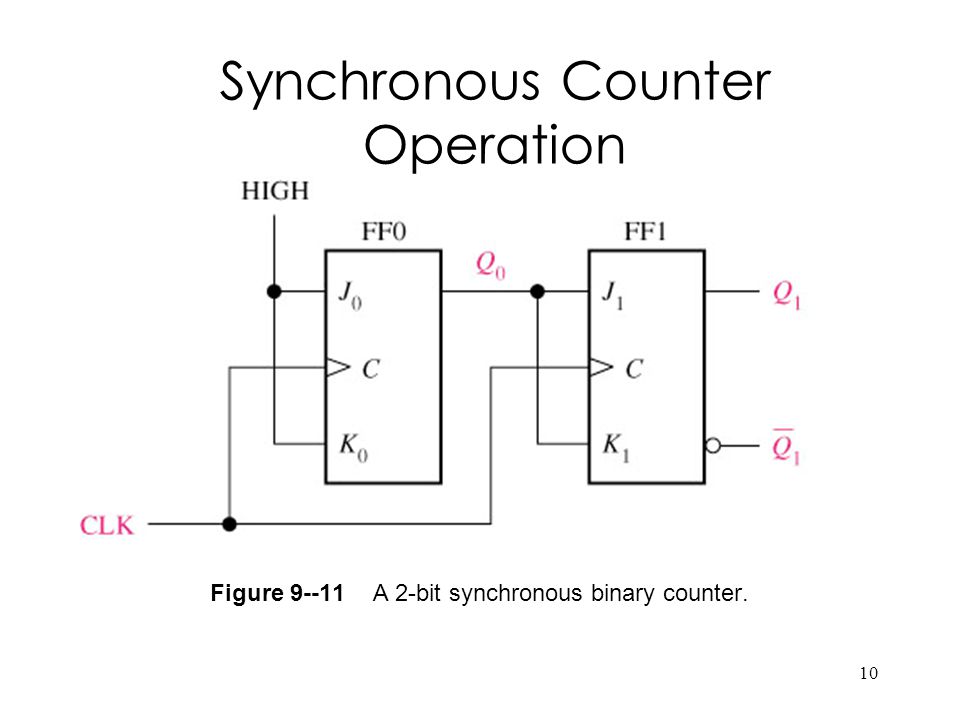
**To Construct synchronous counter**

**THEORY:**

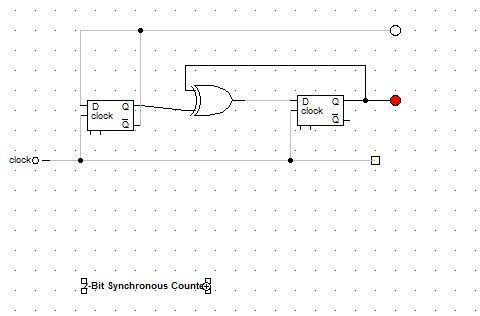
Synchronous Counters are so called because the clock input of all the individual flip-flops within the counter are all clocked together at the same time by the same clock signal

**2-Bit Synchronous Counter:**

**Circuit Diagram:**

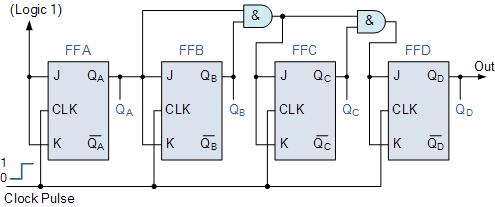
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**Observation:**

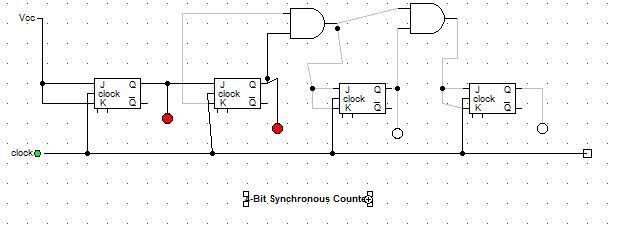
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**4-Bit Synchronous Counter:**

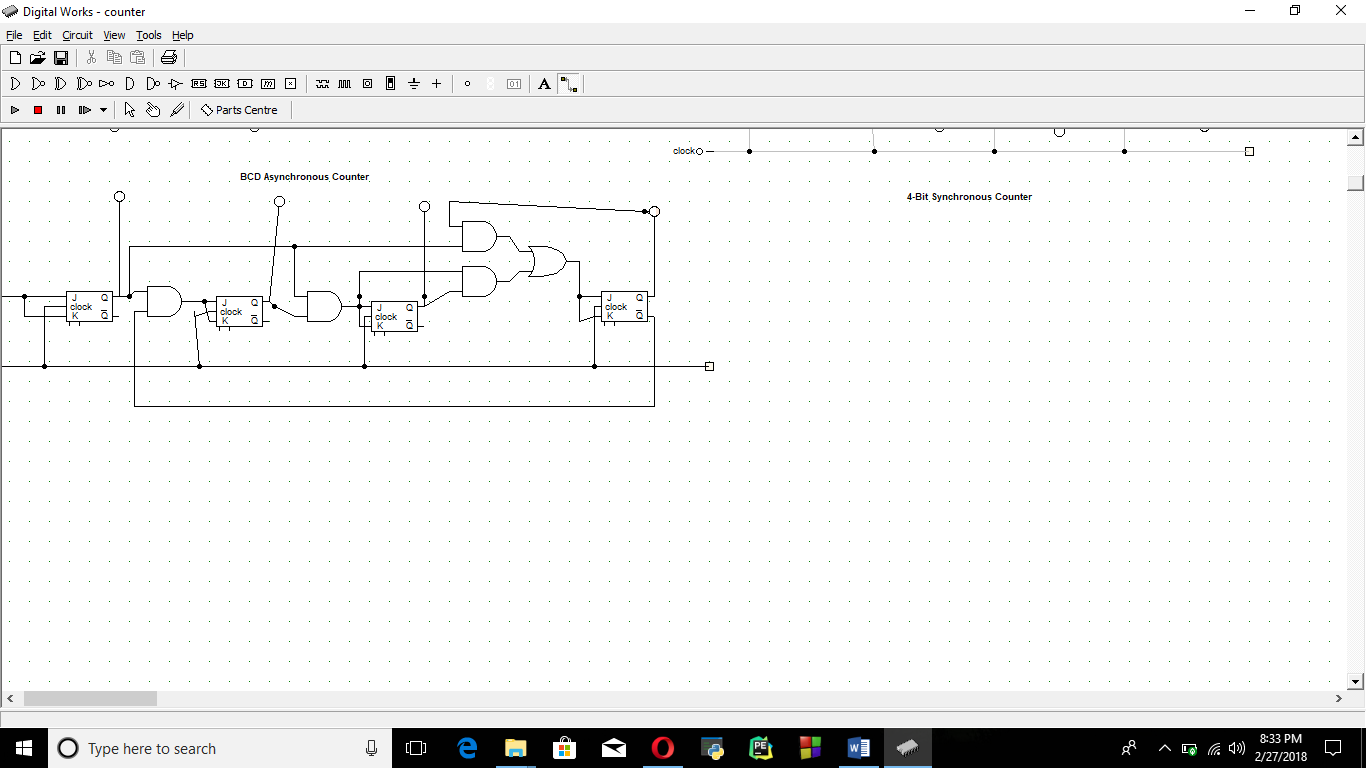
**Circuit diagram:**

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**Observation:**



**BCD Asynchronous Counter:**

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**Conclusion:**

Thus, the Synchronous counters were constructed.